# IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF ILLINOIS

CALEB BARNETT, et al., Plaintiffs,

VS.

KWAME RAOUL, et al.,

Defendants.

DANE HARREL, et al.,

Plaintiffs,

VS.

KWAME RAOUL, et al.,

Defendants.

JEREMY W. LANGLEY, et al.,

Plaintiffs,

VS.

BRENDAN KELLY, et al.,

Defendants.

FEDERAL FIREARMS LICENSEES OF ILLINOIS, et al., Plaintiffs,

VS.

JAY ROBERT "JB" PRITZKER, et al.,

Defendants.

Case No. 3:23-cv-209-SPM

\*\* designated Lead Case

Case No. 3:23-cv-141-SPM

Case No. 3:23-cv-192-SPM

Case No. 3:23-cv-215-SPM

REPORT AND DECLARATION OF DR. STEPHEN W. HARGARTEN, MD, MPH

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- I, Dr. Stephen W. Hargarten, M.D., M.P.H. declare under penalty of perjury that the following is true and correct:
- 1. My name is Stephen W. Hargarten, M.D., M.P.H. I am an emergency medicine specialist, having practiced emergency medicine for over 35 years. I have been board certified across four decades. My curriculum vitae, which is attached as Exhibit A, documents my educational and research experience in detail. It also lists my publications.
  - 2. I am being compensated for my services in this case at the rate of \$250/hour.

#### BACKGROUND AND QUALIFICATIONS

- 3. I received my Medical Degree from the Medical College of Wisconsin in 1975, completed my internship at Gorgas Hospital, a U.S. Army hospital in Panama City, Panama in 1976, and received my Master's Degree in Public Health at the Bloomberg School of Public Health at The Johns Hopkins University in 1984.
- 4. I was a practicing emergency medicine physician in the Milwaukee area for over 35 years, most recently serving as an Attending Physician at Froedtert Hospital until 2018. As an emergency medicine physician, I treated hundreds of patients who sustained gunshot wounds from many different firearms.
- 5. In addition to practicing emergency medicine, I continue to serve as Professor of Emergency Medicine. I served as Chairman of the Department of Emergency Medicine for twenty years, and Associate Dean for Global Health for twelve years at the Medical College of Wisconsin. In 2001 I founded the Injury Research Center, which later was reorganized to become the Comprehensive Injury Center at the Medical College of Wisconsin, serving as Director for nearly 20 years.

- 6. The Comprehensive Injury Center focuses on the sciences of injury prevention and control, including violence prevention, through a multidisciplinary public health approach. This includes community engagement, research, education, and collaboration with partners. The Center conducts research in a variety of areas, including interpersonal violence, gun violence, and opioid use.
- 7. I have served on a number of National and International Committees, including as the Chair of the Network to Prevent Gun Violence in the Americas (2020-2023). I currently serve as the Vice-Chair of the Community Preventive Services Task Force of the U.S.

  Department of Health and Human Services (CDC, 2018-present), and am a former member of the Executive Committee of the Transportation Research Board of the National Academies of Science, Engineering, and Medicine (2018-2023). I have been a member of the National Academy of Medicine since 2011.
- 8. Over the course of my career, I've been awarded more than \$20 million in research grants and awards, including substantial awards by the State of Wisconsin Department of Health Services, Joyce Foundation, National Institute of Justice, and the Centers for Disease Control and Prevention. In addition, I've published more than 100 original papers in peer reviewed journals such as the Academic Emergency Medicine, the Annals of Emergency Medicine, and New England Journal of Medicine.
- 9. In the past four years, I have served as an expert in *Viramontes v. Cook County*, Case No. 21-cv-4595 (N.D. III.); *National Association for Gun Rights v. City of Highland Park*, Case No. 22-cv-4774 (N.D. III.), *RMGO v. Town of Superior*, No. 22-cv-2680-NYW-JPO (D. Colo.), and *Association of New Jersey Rifle and Pistol Clubs v. Grewal*, No. 3:18-10507-PGS-JBD (D. N.J.).

- 10. I have been retained by the Office of the Attorney General of Illinois to provide expert testimony in litigation challenging various aspects of Illinois Public Act 102-1116, also known as the Protect Illinois Communities Act. As of the date of this declaration, the scope of my engagement includes providing expert testimony in the following cases: *Harrel v. Raoul*, Case No. 23-cv-141 (S.D. Ill.); *Langley v. Kelly*, Case No. 23-cv-192 (S.D. Ill.); *Barnett v. Raoul*, Case No. 23-cv-209 (S.D. Ill.); *Federal Firearms Licensees of Illinois v. Pritzker*, Case No. 23-cv-215 (S.D. Ill.); *Herrera v. Raoul*, Case No. 23-cv-532 (N.D. Ill.), *Bevis v. Naperville*, No. 22-cv-4775 (N.D. Ill.); and *Kenneally*, et al., v. Raoul, et al., No. 23-cv-50039 (N.D. Ill.). I have reviewed the provisions of Public Act 102-1116 being challenged in this case.
- 11. I hold my opinions to a reasonable degree of medical and scientific certainty. My opinions are based on my education, training, research, and clinical experience, as well as my knowledge of relevant medical literature and the application of scientific principles to wounding ballistics. Also relevant to the formation of my opinions is my knowledge of accepted standards of medical practice as they apply to emergency medicine.

#### **OPINIONS**

12. Each year, more than 45,000 people die from gun-related injuries in the United States. Many shooting victims do not make it to the hospital, and those who survive are often left with serious complications, lifelong disabilities, and psychological trauma.

<sup>&</sup>lt;sup>1</sup> John Gramlich, "What the data says about gun deaths in the U.S.," Pew Research Center (Feb. 3, 2022), available at <a href="https://www.pewresearch.org/fact-tank/2022/02/03/what-the-data-says-about-gun-deaths-in-the-u-s/">https://www.pewresearch.org/fact-tank/2022/02/03/what-the-data-says-about-gun-deaths-in-the-u-s/</a>.

<sup>&</sup>lt;sup>2</sup> See, e.g., Arlene Greenspan & Arthur L. Kellerman, "Physical and Psychological Outcomes 8 Months after Serious Gunshot Injury," *The Journal of Trauma* 53(4), at 709–16 (Oct. 2002).

- 13. Firearms and their bullets cause damage to a body by transferring kinetic energy to the target, which ripples and tears through tissue and organs. The bullet penetrates the body, creating a temporary and permanent cavity in its wake. The amount of energy a bullet transfers into a target is a function of the bullet's velocity and mass. In addition, the larger a projectile's surface area, such as with a hollow point bullet, the greater its ability to transfer its energy to the intended target.
- 14. Assault weapons<sup>3</sup> release projectiles at a relatively high velocity, and can fire more bullets and thus release more kinetic energy per minute than other kinds of firearms. And due to a variety of factors, including the velocity of the bullet and the caliber of the bullet, bullets fired by assault weapons create permanent cavities along the path of the bullet and create relatively large temporary cavities resulting in more severe organ and tissue damage to such inelastic organs such as the liver and spleen. Assault weapons cause extreme damage to the tissue and organs (especially to solid organs such as the liver and spleen) of shooting victims, leading to relatively high fatality and complication rates in victims.
- I. The Energy Release Of Bullets Fired By Assault Weapons Typically Results In More Destructive Potential Than From Other Weapons.
  - A. Lethality of Projectile Weapons
- 15. Bullets cause damage to human bodies by transferring kinetic energy from the bullet to the body. The amount of energy a bullet transfers into a target is primarily a function of the bullet's velocity and mass. This relationship is expressed by the equation:

$$E = 1/2m \times v^2$$

<sup>&</sup>lt;sup>3</sup> For purposes of this declaration, I use "assault weapons" to refer to firearms like the AR-15, which typically are capable of firing rounds at relatively high velocity, are lightweight and easy to maneuver, have low recoil, and display a high degree of accuracy at long range. This kind of weapon is encompassed by the definition of "assault weapon" in Public Act 102-1116. See 720 ILCS 5/24-1.9.

$$(E = Energy; m = mass; v = velocity)^4$$

- 16. As this equation indicates, the energy available to deliver to the target increases incrementally with increases in mass of the projectile, and exponentially with increases in the projectile's velocity. That is, as the mass of the bullet increases, its contribution to the resulting kinetic energy is incremental while changes in velocity result in exponential increases in kinetic energy. Changes in velocity are therefore more significant for wounding capability than changes in mass.
- 17. Other characteristics of bullets also affect how much energy is actually transferred, including the surface area. The larger a projectile's surface area, such as is the case with a hollow point bullet, the greater its ability to transfer its energy to the intended target. The caliber of the bullet is referring to the diameter of the barrel of the firearm and thus the diameter of the bullet being released in that firearm, usually referenced in inches or millimeters. The higher the caliber, the wider the bullet.
- 18. Fragmentation is also a factor in how much energy gets transferred. If a bullet fragments inside the body, it transfers and distributes more energy and potentially causes greater injury to adjacent tissue and organs.
- 19. Further, for any given time period, the total kinetic energy available for transfer will depend on the number of projectiles that can be fired during that time period.

<sup>&</sup>lt;sup>4</sup> Panagiotis K. Stefanopoulos *et al.*, "Wound ballistics of military rifle bullets: An update on controversial issues and associated misconceptions," *Journal of Trauma and Acute Care Surgery* 87(3), at 696 (Sept. 2019).

<sup>&</sup>lt;sup>5</sup> Id.

20. It goes without saying that the projectiles must hit the target to transfer energy to that target. When they do hit, the physical manifestations of the energy transfer are the temporary and permanent cavities that are created by the bullet.

# B. Goals and Design of Gelatin Experiments

- 21. For the past several years, I have researched the energy transfer and damage to human tissue of different types of weapons at the Comprehensive Injury Center at the Medical College of Wisconsin ("MCW"), in collaboration with the Department of Biomedical Engineering at MCW and Marquette University. Over the past several years, I, along with a group of collaborators, have sought to perform wound ballistics modeling with state-of-the-art video technology and sensors. Specifically, we designed an experiment to gain a greater understanding of how the bullet "behaves" and transfers energy in simulated human tissue (gelatin). We wanted to quantify the scope and nature of the energy release. We also wanted to measure the size of the permanent and temporary cavities created by the bullet as it travels through the human body model.
- 22. We sought to measure energy release and cavity size because both are wounding predictors in the human body. As the bullet's velocity and mass increases, the tissue and organs that are in the direct path (permanent cavity) or adjacent (temporary cavity) are increasingly damaged. When a low mass/velocity bullet strikes the liver, there will be damage primarily confined to the permanent cavity, with little tissue damage lateral to this pathway given the relatively small temporary cavity. With a high velocity bullet, even with the same mass, the energy released creates a larger temporary cavity and results in significant additional tearing of

<sup>&</sup>lt;sup>6</sup> Panagiotis K. Stefanopoulos *et al.*, "Wound ballistics of military rifle bullets: An update on controversial issues and associated misconceptions," *Journal of Trauma and Acute Care Surgery* 87(3), at 696 (Sept. 2019).

the liver. As summarized in Stephanopolous (2017),<sup>7</sup> "The damage produced from temporary cavitation depends on the tensile properties of the tissues involved, and in high-energy injuries, may lead to progressive muscle tissue necrosis." Several articles have summarized this wounding prediction,<sup>8</sup> but our work sought to specifically quantify it.

- 23. To do so, we partnered with the Wisconsin Crime Lab, Division of Firearms and Toolmark Examiners, in Milwaukee, Wisconsin, where we identified and utilized firearms from their laboratory. Specifically, we conducted biomechanical testing of the bullets released from several different types of firearms, with the typical ammunition associated with those weapons.<sup>9</sup>
- 24. We used three handguns (all pistols with .25 caliber, .32 caliber, and .40 caliber bullets), a bolt-action Remington hunting rifle (.30-06 caliber), an AR-15 style rifle (5.56 NATO bullets), a Thompson Machine gun rifle (.45 caliber ACP bullet), and a musket model (musket ball). These were chosen to compare the energy output and resulting cavity size from different types of weapons and bullets. We wanted a range to understand how bullets have behaved across decades of technology. And so, we selected a model musket ball (which we fired from a simulated musket barrel) to simulate a historical firearm from centuries ago, the Thompson Machine gun as a historical firearm that was regulated in the 1930s, the AR-15 as a firearm that has gained a lot of attention for its recent use in the upsurge in mass deaths, a bolt-action

<sup>&</sup>lt;sup>7</sup> P. K. Stefanopoulos. et al., Wound ballistics 101: the mechanisms of soft tissue wounding by bullets, Eur. J. Trauma Emerg. Surg. 579–86 (Oct. 2017)

<sup>&</sup>lt;sup>8</sup> See, e.g., id.; Peter M. Rhee, MD, MPH, et al., Gunshot wounds: A review of ballistics, bullets, weapons, and myths, J. Trauma Acute Care Surg., 853–67 (Jun. 2016).

<sup>&</sup>lt;sup>9</sup> The size of the bullet can affect wound severity. In general, holding all else equal, larger caliber rounds are more likely to cause more severe injuries because they increase the surface area of affected tissue (permanent and temporary cavities). However, changes in velocity are more significant than changes in mass in determining the total energy of a projectile. *See, e.g.*, Anthony A. Braga & Philip J. Cook, "The Association of Firearm Caliber With Likelihood of Death From Gunshot Injury in Criminal Assaults," *JAMA Network Open* 1(3) (July 27, 2018), available at <a href="https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2688536">https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2688536</a>.

Remington as a classic hunting rifle, and handguns because they are used today both in bad outcomes (homicides/suicides) as well as for self-protection. For the AR-15, we knew they commonly shoot 5.56 NATO and .223, but since those rounds are considered almost identical in mass and anticipated velocity, we only tested the 5.56 NATO. For handguns, we wanted to test a range of calibers (low, medium, and high) and so we tested .25, .32, and .40.

- 25. The distance from the firearm muzzle to the gelatin was approximately 10 feet. We used one round for each firearm tested. We fired two rounds in separate tests of the 5.56 NATO round.
- 26. The bullets were shot into gelatin. We chose to use gelatin because it simulates, with a similar projectile depth of penetration and permanent damage, the damage done to human soft tissue. Gelatin blocks allow researchers to measure and visualize the energy transfer, temporary cavity, and permanent wound channels created by a projectile.<sup>10</sup>
- 27. When conducting the experiment, science leaders, and a technician and a doctoral student from the Bio-Engineering Department of the Medical College of Wisconsin/Marquette University set up the video technology sensors and gelatin, while the Wisconsin Crime Lab personnel set up the stand for the firearms and fired the bullets into the gelatin.
- 28. We tested bullets associated with different types of firearms to record and quantify the scope and nature of the permanent and temporary cavities and to quantify the energy release of the bullets with two energy sensors affixed into the gelatin. The system was set up so that when the bullet was released from the firearm, the passage of the bullet through the gelatin was recorded by high-speed video technology.

<sup>&</sup>lt;sup>10</sup> See, e.g., D.J. Carr et al., "The use of gelatine in wound ballistics research," *International Journal of Legal Medicine* 132(6), at 1659–64 (Apr. 25, 2018), available at <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6208714/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6208714/</a>.

- 29. The two pressure transducers with range 0 50 megapascals (Entran Sensors & Electronics, Fairfield, NJ) were inserted about ten millimeters deep into the gelatin, perpendicular to the bullet path and recorded at 300 kHz. One sensor, the near sensor, was close to the front of the gelatin block; the other sensor, the far sensor, was close to the back of the gelatin block. Data capture was triggered after the bullet was fired using a sound-triggering device (Woods Electronics, Poway, CA). Pressure was filtered at 2.5 kHz using a low-pass Butterworth filter (MATLAB, The MathWorks, Inc., Natick, Massachusetts) and analyzed over time to evaluate peaks for maximum pressure.
- 30. The experiment measured a number of metrics. First, the experiment measured pressure caused by the bullet. Pressure was measured by the two different sensors at different points in the gelatin. Pressure is especially important for fluid filled organs such as intestines and the heart. The higher the pressure, the greater the risk of injury to these organs.
- 31. Second, the experiment measured the temporary cavity and permanent cavity formed by the bullet. A permanent cavity is formed by the mass of the bullet traveling through the gelatin, which causes direct crushing and tearing of the gelatin, similar to what occurs in human tissue and organs. The temporary cavity is formed by the dispersion of the kinetic energy radially from the permanent cavity path, resulting in additional stretching and tearing of the gelatin, again similar to what occurs in human tissue and organs. The temporary cavity caused by the energy release is similar to when water is displaced when a diver enters a pool.
- 32. Third, the experiment measured energy lost by the bullet as it travelled through the gelatin. The quantity of energy released in the gelatin was acquired by means of the high-

speed video camera, which allowed us to measure the entrance and exit velocities of the bullet, and was calculated using the following equations:<sup>11</sup>

Initial energy of the bullet directly before impact into the ballistic gelatin was calculated using the law of kinetic energy:

$$KE = \frac{1}{2}m(vi^2)$$

The energy transferred to the ballistic gelatin was calculated using the difference between bullet entrance velocity  $(vi)^{12}$  and bullet exit velocity (vf) in the kinetic energy equation:

$$KE = \frac{1}{2}m(vi^2 - vf^2)$$

The second equation represents the energy that human tissue will absorb as the bullet passes through the body.

33. Fourth, we measured the percentage of the bullet's energy transferred to the gelatin by the bullet. This was calculated by taking the energy transferred (calculated as described above) and comparing it to the kinetic energy of the bullet entering the gelatin

The Percent Energy Transferred is equal to:

$$\frac{energy\ transferred}{initial\ energy}*100$$

34. Occasionally a bullet will fragment when it enters the gelatin (which also occurs with human tissue). Energy transfer generally increases when a round fragments because energy is released into the fragments and spread over a greater surface area.

<sup>&</sup>lt;sup>11</sup> To identify the mass for these calculations, we weighed each bullet before firing it. The final table in Exhibit B lists each round's mass in grams.

<sup>&</sup>lt;sup>12</sup> To be clear, entrance velocity refers to the bullet's velocity when it enters the gelatin, not the velocity when it exits the muzzle (muzzle velocity).

# C. Findings from Gelatin Experiments

- 35. The results of the experiment are summarized in **Exhibit B**.
- 36. We found that the energy release of a 5.56 NATO round fired by an AR-15 style rifle (1,055.05 joules) is significantly greater than that of a round fired by a handgun (54.13 joules for a .25 caliber, 108.73 joules for a .32 caliber, and 265.99 joules for a .40 caliber), a .45 caliber round fired by a Thompson Machine gun (301.81 joules), and a model musket ball (111.27 joules). The energy release per AR-15 bullet is approximately three times greater than a Thompson Machine gun, approximately four to nineteen times greater than the handguns (depending on the caliber), and approximately ten times greater than a model musket ball. The energy release is even larger in a 5.56 NATO round when the bullet fragments, which it did in our second testing of the 5.56 NATO (1,138.13 joules). These results are shown below. 14

<sup>&</sup>lt;sup>13</sup> In the AR-15, fragmentation is a feature, not a bug. Fragmentation is commonly the result of the instability of the projectile. According to AR-15 designer Eugene Stoner:

There is the advantage that a small or light bullet has over a heavy one when it comes to wound ballistics, even for the same velocity. But, of course, velocity helps. ... [B]ullets are stabilized to fly through the air, and not through water, or a body, which is approximately the same density as the water. And they are stable as long as they are in the air. When they hit something, they immediately go unstable. ... If you are talking about .30-caliber, this might remain stable through a human body. ... While a little bullet, being it has a low mass, it senses an instability situation faster and reacts much faster. ... this is what makes a little bullet pay off so much in wound ballistics. .. [T]here is a definite payoff on small high-velocity bullets.

Congressional testimony "House of Representatives, Committee on Armed Services, Special sub-committee on the M-16 Rifle Program" (June 21, 1967) in *Hearings, Reports and Prints of the House Committee on Armed Services*, Issues 15–25, p. 4563,

<sup>&</sup>lt;sup>14</sup> This chart is adapted from the last table of Exhibit B.

Round Type	Bullet Mass (g)	Energy Lost by Bullet while passing thru Gel [J]	%Energy Transferred
.25 Caliber	3.240	54.13	83.2%
.32 Caliber	4.601	108.73	58.8%
.40 Caliber	11.664	265.99	75.3%
5.56 NATO	3.564	1,055.05	67.6%
Musket Ball	3.531	111.27	77.1%
Thompson .45	14.904	301.81	47.3%
5.56 NATO	3.564	1,138.13	*93.6%
.30-06	8.424	2,126.55	79.7%

<sup>\*</sup> Bullet fragmented. This likely increased the energy transfer.

- 37. To put this into perspective, the perpetrator of the mass shooting in Uvalde, Texas, was reported to have carried more than 1,600 rounds of ammunition with him on the day of the shooting. The total amount of energy that 1600 rounds represents is calculated by multiplying 1600 by the amount of joules that the 5.56 NATO released in the gelatin, or 1,760,000 joules.
- 38. Furthermore, the temporary cavity caused by the 5.56 NATO bullet in the gelatin tests was significantly larger than the cavity sizes caused by the handguns, Thompson Machine

<sup>&</sup>lt;sup>15</sup> https://www.wfaa.com/article/news/special-reports/uvalde-school-shooting/texas-elementary-school-shooting-salvador-ramos-by-the-numbers-how-many-rounds-the-uvalde-shooter-fired-and-how-much-police-fired-at-him/287-c9c90472-7a0c-4f7b-9cd5-69bc365633fe (reporting that police found 58 total magazines at the crime scene, or 1,657 rounds of ammunition).

gun, and the musket. The temporary cavity caused by the AR-15 increased, by nearly 2 inches, with fragmentation. Cavity size results are shown below.<sup>16</sup>

Round Type	Peak Diameter of Temporary Cavity (inches)
.25 Caliber	1.0
.32 Caliber	1.5
.40 Caliber	3.3
5.56 NATO	5.4
Musket Ball	3.1
Thompson .45	2.1
5.56 NATO	7.2
.30-06	*8.0

<sup>\*</sup>Peak cavity extended beyond range of camera view. Listed value is from bottom of cavity to top of frame. Estimated cavity is closer to 11.8 inches.

39. The only weapon that came close to producing energy and temporary cavities comparable to the 5.56 NATO round was the .30-06 round from the Remington hunting rifle, which is often used to hunt large game. However, a shooter firing an AR-15 style weapon is capable of firing substantially more rounds per minute than someone shooting the Remington hunting rifle for a variety of reasons (e.g., because the hunting rifle requires the shooter to pull the bolt back before firing each round (i.e., the hunting rifle requires the shooter to manually

<sup>&</sup>lt;sup>16</sup> This chart is adapted from the last table of Exhibit B.

cycle the round); the hunting rifle produces a higher recoil, which means the shooter typically must re-aim after each shot; and the hunting rifle has a magazine of only 3-5 rounds, which requires more frequent reloading). Because the shooter firing the AR-15 style weapon is capable of firing substantially more rounds per minute than the shooter firing the hunting rifle, the AR-15, in effect, releases significantly more total energy on a per-minute basis than the hunting rifle.

- 40. It is my opinion that the AR-15 style bullet's kinetic energy release with its associated permanent and greater temporary cavities is more destructive than those fired by the Thompson Machine gun, handguns, and muskets. Additionally, when considering the number of rounds per minute that each type of firearm is capable of firing, it is my opinion that an AR-15 style weapon is capable of significantly more destruction than a hunting rifle.
- 41. Large-capacity magazines only increase this destructive potential by increasing the number of rounds someone can fire without having to reload, thereby increasing the number of bullets that can be fired during a given time period.

#### D. Experiment Limitations and Implications

- 42. I am aware that the Protect Illinois Communities Act regulates many firearms that we did not test. I am also aware that the one firearm we tested that the Illinois statute does regulate (an AR-15 rifle), can be used with other calibers of ammunition that we did not test.
- 43. We did not test an M16 rifle. It is my understanding that an M16 also uses 5.56 NATO ammunition. If I were able to test a 5.56 NATO round fired from an M16, I would anticipate (though I cannot be certain without conducting the test) that the results would be similar to the results obtained with the AR-15 in our experiment. Our experiment measured the damage caused by a single bullet, so the rate of fire of a weapon does not affect those calculations.

# II. AR-15 Style Weapons Produce More Damage To The Human Body Than Other Civilian Weapons.

- 44. The significant differences in energy transfer and temporary and permanent cavity sizes associated with rounds fired by AR-15 style weapons as compared to rounds fired by other weapons (including on a per-minute basis) have direct implications for injury and death.
- 45. AR-15 style weapons are capable of inflicting enormous damage on the human body, especially for children. Specifically, critical solid organs are more at risk, and the relative proximity of vital organs to each other in children increases the likelihood of serious injury or death from gunshot wounds caused by an AR-15 style as compared to those caused by bullets from handguns that have lower velocities. Organs such as the liver and spleen, which are relatively inelastic organs due to their cellular structures (versus lung tissue, which is very elastic due to their need to inflate and constrict) are more severely lacerated due to the greater temporary cavity formation by these bullets, resulting in tearing of veins and arteries, which increases the risk of catastrophic bleeding. In addition, bullets from AR-15 style rifles are more likely to cause significant damage to bones and skeletal structure due to their higher energy release.
- 46. This reality is borne out by the experiences of those who have recently treated victims of mass shootings involving assault rifles. For example, trauma doctors and nurses who treated patients in the Pulse nightclub shooting in Orlando and other mass shootings including the Parkland mass shooting "commented on the unbelievable devastation resulting from the bullet wounds."

<sup>&</sup>lt;sup>17</sup> Leana Wen, "What Bullets Do to Bodies," *The New York Times* (June 15, 2017), available at <a href="https://www.nytimes.com/2017/06/15/opinion/virginia-baseball-shooting-gun-shot-wounds.html?\_r=1;">https://www.nytimes.com/2017/06/15/opinion/virginia-baseball-shooting-gun-shot-wounds.html?\_r=1;</a> Heather Sher, M.D., What I Saw Treating the Victims From Parkland Should Change the Debate on Guns, The Atlantic, February 22, 2018, available at <a href="https://www.theatlantic.com/politics/archive/2018/02/what-i-saw-treating-the-victims-from-parkland-should-change-the-debate-on-guns/553937/">https://www.theatlantic.com/politics/archive/2018/02/what-i-saw-treating-the-victims-from-parkland-should-change-the-debate-on-guns/553937/</a>.

- 47. The damage to the human body of bullets fired by assault rifles paired with large-capacity magazines is amplified when there are multiple bullet wounds and in smaller bodies such as children. In multiple-gunshot cases, there are multiple cavities with energy being transferred to different places inside the body, which means the victim's wounds are typically more complex, carry a higher likelihood of injury requiring surgical intervention, and carry a higher likelihood of death in the emergency department.<sup>18</sup>
- 48. Finally, while the likelihood of serious injury and death from a wound caused by an assault weapon is high for adult victims, the likelihood of serious injury or death for pediatric victims is even greater. Because children have smaller torsos, relatively more compressed/adjacent vital organs, and smaller blood reserves, the energy release and greater temporary cavities associated with AR-15 style bullets are even more likely to cause serious damage to children as compared to teenagers or adults. For example, not a single child wounded by a bullet fired from an assault weapon at Sandy Hook survived. <sup>19</sup> In Uvalde, Texas, approximately 80% of children hit by bullets from assault weapons died, and in Parkland, Florida (where older children were involved) the rate was 50%, based on my estimates and reports. Those patients who do survive after having been struck by these bullets often face surgical challenges, recurring operative procedures, and long-term recovery and disability that is often significantly more complex and difficult to manage than for older victims.

<sup>&</sup>lt;sup>18</sup> Brendan G. Carr *et al.*, "Outcomes related to the number and anatomic placement of gunshot wounds," *Journal of Trauma* 64(1), at 197–202 (Jan. 2008), available at https://pubmed.ncbi.nlm.nih.gov/18188121/.

<sup>&</sup>lt;sup>19</sup> Report of the State's Attorney for the Judicial District of Danbury on the Shootings at Sandy Hook Elementary School and 36 Yogananda Street, Newton, Connecticut on December 14, 2012 (Nov. 25, 2013) at p. 10, <a href="https://portal.ct.gov/-/media/DCJ/SandyHookFinalReportpdf.pdf">https://portal.ct.gov/-/media/DCJ/SandyHookFinalReportpdf.pdf</a>. In In

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on

# Exhibit A

# CURRICULUM VITAE (Dec. 2023)

Professor of Emergency Medicine

<u>Home Address:</u> 2411 E. Menlo Boulevard

Shorewood, WI 53211

Office Address: The Hub for Collaborative Medicine

8701 W Watertown Plank Rd.

Milwaukee, WI 53226 Email: hargart@mcw.edu

<u>Birth date:</u> January 5, 1949

Marital Status: Married, 1987 - Janis

Children: Beth, Jordan, Leah

Education:

1984 MPH, Johns Hopkins School of Public Health and Hygiene

1975 MD, Medical College of Wisconsin

1971 BA, University of Wisconsin, Milwaukee

Postgraduate Training:

1975-1976 Rotating Internship, Gorgas Hospital, Canal Zone, Panama

Faculty Appointments:

2020-present Senior Injury and Policy Advisor, Comprehensive Injury Center at the Medical

College of Wisconsin

2017-2019 Co-Director, Global Health Pathway, Medical College of Wisconsin

2014-2016 Faculty Representative, Board of Trustees, Medical College of Wisconsin

2013-2017 Director, Global Health Pathway, Medical College of Wisconsin

2013-2017 Adjunct Faculty, Joseph J. Zilber School of Public Health, University of

Wisconsin

2012-present Graduate Faculty, Graduate School of Biomedical Sciences, Medical College of

Wisconsin

2010-2021 Associate Dean, Global Health, Medical College of Wisconsin

2010-2014 Institute for Health and Society, Medical College of Wisconsin

2008–present Adjunct Professor, Department of Population Health Sciences

University of Wisconsin School of Medicine and Public Health

2001-2020 Director, Comprehensive Injury Center at the Medical College of Wisconsin

1998-present Professor, Department of Emergency Medicine, Medical College of Wisconsin

1998-2018	Chairman, Department of Emergency Medicine, Medical College of Wisconsin
1998-2001	Director, Wisconsin Injury Research Center, Department of Emergency Medicine, Medical College of Wisconsin
1997-2002	Director, Firearm Injury Center, Department of Emergency Medicine, Medical College of Wisconsin
1994-1997	Associate Professor, Interim Chairman, Department of Emergency Medicine, Medical College of Wisconsin
1994-1996	Instructional Academic Staff Preceptor, Physician Assistant Program, Department of Family Medicine & Practice, University of Wisconsin Medical School - Madison, WI
1994-2004	Health Policy Institute, Medical College of Wisconsin
1989-1994	Assistant Professor of Emergency Medicine, Medical College of Wisconsin
1985-1988	Assistant Clinical Professor, Department of Trauma and Emergency Medicine, Medical College of Wisconsin

# **Hospital and Administrative Appointments:**

**Specialty Certification:** 

2000

1991

1987-2010

1995-2018		Attending Staff, Froedtert Hospital
1992-1997		Associate Attending Staff, Children's Hospital of Wisconsin
Hospital Appointmen	nts: (past)	
1989-1995		Associate Attending Staff, John L. Doyne Hospital, Milwaukee, WI
1985-1988		Staff Physician, Emergency Department, St. Luke's Hospital
1984-1985		Staff Physician, Emergency Department, St. Joseph's Hospital
1977-1983		Staff Physician, Emergency Department, St. Mary's Hospital
1976-1977		Staff Physician, Emergency Department, St. Joseph's Hospital
Other Appointments:		
2014-2020	ı	President and CEO, Milwaukee Global Health Consortium, Milwaukee, WI

Board Re-certified, American Board of Emergency Medicine

Board Re-certified, American Board of Emergency Medicine

Examiner, American Board of Emergency Medicine

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1987-2003 Instructor, Advanced Trauma Life Support

1983-2005 Fellow, American College of Emergency Physicians

1982 Board Certified, American Board of Emergency Medicine

# Licensure:

National Board of Medical Examiners - July 1976 - #154341 State of Wisconsin - July 1976 - #20218

<u>Awards/Honors</u> 2019	Distinguished Service Award, Medical College of Wisconsin
2019	Distinguished Service Award, Medical College of Wisconsin
2018	Appointment to the Community Preventive Services Task Force (CPSTF) of the U.S. Department of Health and Human Services
2017	International Institute of Wisconsin's Dorothy Von Briesen World Citizen Award in recognition of dedication to the promotion of international cooperation and understanding between diverse cultural communities
2016	The Leonard Tow 2016 Humanism in Medicine Award in recognition of exemplary compassion, competence and respect in the delivery of care (presented by The Arnold P. Gold Foundation)
2015	Distinguished Achievement Award, Milwaukee Academy of Medicine
2012	Outstanding Pathways Advisor for the 2012 Academic Year Medical College of Wisconsin
2012	Outstanding Medical Student Teacher for the 2011-2012 Academic Year Medical College of Wisconsin
2011	Election to the National Academy of Medicine, (Formally the Institute of Medicine) of The National Academy of Sciences
2011	Selected to be a Johns Hopkins Scholar
2008	Outstanding Medical Student Teacher for the 2007-2008 Academic Year Medical College of Wisconsin
2000	Prevention Achievement Award – presented by the Brain Injury Association of Wisconsin
2000	President's Award, Milwaukee Academy of Medicine
1996	Contributions to the 1996 Healthy People 2000 Progress Review, and in recognition of leadership in the area of Violence Prevention, on behalf of the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Washington, DC, November
1995	Public Citizen of the Year, National Association of Social Workers - Wisconsin Chapter
1994	Physician of the Year State Medical Society – Wisconsin

1990

Rookie of the Year Award (presented by the Emergency Medicine Residents, Medical College of Wisconsin-MCWAH)

## Memberships in Professional and Honorary Societies:

Society for Research Excellence

Community Preventive Services Task Force (US Dept of Health & Human Services)

The National Academy of Medicine (fka Institute of Medicine)

Johns Hopkins Society of Scholars

Society for Academic Emergency Medicine

American Public Health Association

Advocates for Highway and Auto Safety

Wisconsin Public Health Association

International Travel Medicine Society

Society for Advancement of Violence and Injury Research

## Consultant:

Florida Department of Health Colorado Department of Health

#### Journal Reviewer:

Academic Emergency Medicine Annals of Emergency Medicine Accident Analysis and Prevention American Journal of Emergency Medicine Journal of Global Health Journal of the American Medical Association Journal of Injury Prevention Chinese Journal of Emergency Medicine, Editorial Board

### Peer Grant Reviewer

NCIPC - Elimination of Health Disparities through Translation Research (R18), 2008

#### National Advisory Committees/Boards:

Chair, Network to Prevent Gun Violence in the Americas, 2020-present

Member, Global Violence Prevention Forum of the National Academies of Sciences, Engineering and Medicine, 2019-present

Member, Community Preventive Services Task Force of the U.S. Department of Health and Human Services, 2018-present

Member, Executive Committee, Transportation Research Board of the National Academies of Sciences, Engineering and Medicine, 2018-present

Member, Executive Committee, Transportation Research Board of the National Academies, 2018present

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Stephen W. Hargarten, MD, MPH

Member, Scientific Committee, Consortium of Universities for Global Health, 2013

Special Government Employee, Board of Scientific Counselors, National Center for Injury Prevention and Control, 2013-2017

Member, Institute of Medicine, Global Health Board, 2012-2018

Member, Scientific Advisory Committee, University of Michigan Injury Center, 2011-present

Board Member, Community Advocates, Urban Strategies, 2010-present

Board Member, Great Lakes Transportation Enterprise Institute, 2010-2013

Founding President, Society for Advancement of Violence and Injury Research, 2005-2007

President, Association of Academic Chairs of Emergency Medicine, 2004-2005

President, National Association of Injury Control Research Centers, 2004-2005

Member, Advisory Committee, National Center of Injury Prevention and Control, Acute Care Research Committee, 2004-2005

Board Member, St. Charles Youth and Family Services, 2001-present

Participant, Injury Research Grant Review Committee, Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, June 7-8, 1998

Member, Senator Russ Feingold Health Care East Advisory Committee, 1999–2010

Co-Chair, Advocates for Highway & Auto Safety, 1998 – 2002

Public Health Task Force, Society for Academic Emergency Medicine 1998 - 2000

Member, Education Advisory Committee, Association for the Advancement of Automotive Medicine, 1996 – 1997

Board Member, Advocates for Highway & Auto Safety, 1994 – present

Member, Public Health and Injury Prevention Committee - American College of Emergency Physicians, 1991-1995

Member, Program Committee, Society for Academic Emergency Medicine, 1993 - 1995

Board Member, Association for Advancement of Automotive Medicine, 1992 - 1995

Member, Public Health Committee - Society for Academic Emergency Medicine, 1990 - 1993

Member, Trauma Subcommittee American College of Emergency Physicians, 1990 – 1991

#### State/Local Advisory Committee/Boards:

Faculty Member, Board of Trustees, Medical College of Wisconsin, 2014-2016

Member, Committee on Inmate/Youth Death, Department of Corrections, 2005-2007

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Stephen W. Hargarten, MD, MPH

Member, Public Health Council, Department of Health and Family Services, 2004-2006

Task Force Member, Governors Task Force on Terrorism, 2001-2003

Chair, State Trauma Advisory Committee, 1999-2003

Chair, State Medical Society Council on Health of the Public, 1999-2000

Eastern Regional Health Care Advisory Committee of Senator Feingold, 1998-2000

Chair, Policies and Practice Work Group, Fighting Back, 1998

Board Member, Fighting Back, 1997-2000

Chair, State Medical Society Injury Control Commission, 1996 - 1999

Chair, Public Health and Education Committee, Milwaukee Academy of Medicine, 1993 – 1999

Tom Dooley Heritage - Board Member (Private, Voluntary Organization), 1981 - 1995

Chairman, Safe Transportation Commission Wisconsin State Medical Society, 1990 - 1994

Board Member, Wisconsin Division American Trauma Society, 1990 - 1993

President, Wisconsin Public Health Association, 1992 - 1993

Co-Chairman, Wisconsin Safety Belt Coalition, Madison, Wisconsin, 1986 - 1991

Milwaukee County Medical Society Public Health Committee, 1989 - 1991

Commissioner, Milwaukee Safety Commission, 1987 - 1990

Medical Director, St. Luke's International Travel Clinic, 1985 - 1988

Board Member/President, Wisconsin Indochina Refugee Relief (WICRR) – Wisconsin, 1980 - 1982

Wisconsin Indochina Refugee Relief (WICRR) (Private, Voluntary non-profit organization), Volunteer Physicians - Tom Dooley Memorial Hospital Thailand, 1980

Co-Founder, Board Member West of the River Community Center, Milwaukee, Wisconsin, 1977 – 1979

#### Research Grants, Contracts, and Awards:

 "Remembering the Lost: How Investigation of Military Suicides Can Improve Prevention Resources" AWARD FOR FISCAL YEARS 2020-22

\$316,576

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Advancing a Healthier Wisconsin Endowment

 "Using Hospital Records of Patients Presenting to Froedtert Hospital to Predict Risk of Opioid Use Disorder (OUD), Fatal and Non-fatal Opioid Overdose, and ED Readmission" AWARD FOR FISCAL YEARS 2020-2021 \$50,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

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Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Clinical and Translational Science Institute through Advancing a Healthier Wisconsin Endowment

3. "Project Zero"

AWARD FOR FISCAL YEARS 2021-2023

\$316,760

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Advancing a Healthier Wisconsin Endowment

4. "Project Aware"

AWARD FOR FISCAL YEARS 2019-2024

\$300,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: (Sub-contract) State of Wisconsin Department of Health Services

5. "WVDRS and SUDORS Contract"

AWARD FOR FISCAL YEARS 2019-2020

\$170.440

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: (Sub-contract) State of Wisconsin Department of Health Services

6. FY20 DOC Contract

AWARD FOR FISCAL YEARS 2019-2020

\$99,874

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: Wisconsin Department of Corrections

7. "Destination Zero: Zero Suicide in Fond du Lac County"

AWARD FOR FISCAL YEARS 2018-2020

\$419,691

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

8. "MCW Blue Center Research Award"

INITIAL AWARD FOR FISCAL YEARS: 2017-2020

\$600,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Medical College of Wisconsin, Office of Research

9. "Scudder Travel Scholarship"

AWARD FOR FISCAL YEARS: 2017-2021

\$15,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Dr. James H. Taylor and Dr. Susan P. Taylor

10. "Dr. Elaine Kohler Summer Academy in Global Health Research and Electives"

AWARD FOR FISCAL YEARS: 2017-2021

TOTAL AWARD: \$250,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: John Michael Kohler Family Foundation

11. "The Cardiff Model: Strengthening Community Capacity to Reduce Violence:

AWARD FOR FISCAL YEARS 2016-2018

\$499,693

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

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Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: US Department of Justice

12. "Developing a Community-Based Approach to Reduce Drug Overdoses in Milwaukee County"

AWARD FOR FISCAL YEAR 2016

TOTAL AWARD \$25,000

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Milwaukee County

13. "Addressing Racial Disparities in the Ascertainment and Identification of Depression,

Suicidal Ideation, and Death by Suicide" AWARD FOR FISCAL YEARS 2016-2017

TOTAL AWARD \$37,347

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Charles E. Kubly Foundation

14. "Creating a Jackson County that Supports Mental Health"

AWARD FOR FISCAL YEARS 2015-2017

TOTAL AWARD: \$374,504

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

15. "Wisconsin Violent Death Reporting System" (WVDRS)

**AWARD FOR FISCAL YEAR 2015** 

AWARD: \$69,773

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: (Sub-Contract) State of Wisconsin, Department of Health Services

16. "Integrating Emergency Data with Law Enforcement, Emergency Medical Service and

Community Data to Reduce Violence" AWARD FOR FISCAL YEAR 2015

PRINCIPAL INVESTIGATORS: Stephen Hargarten, MD, MPH and Jennifer Hernandez-Meier, MSW

FUNDING AGENCY: National Institute of Justice

17. "Criminal Background Characteristics of Homicide Perpetrators and Victim's and

Suicide Decedents: A Model State Analysis" AWARD FOR FISCAL YEARS 2014-2016

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: New Venture Fund for a Safer Future

18. "Training Administration Support"

AWARD FOR FISCAL YEARS 2012-present

TOTAL AWARD: \$6,200

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

**FUNDING AGENCY: Varies** 

19. "M4 University of the Philippines College of Medicine Global Health Elective"

AWARD FOR FISCAL YEARS: 2012-2013

TOTAL AWARD: \$1,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: David E. Engelhardt, MD

20. "Changing the Culture of Risky Drinking Behavior: Policy Change"

AWARD FOR FISCAL YEARS: 2012-2017

TOTAL AWARD: \$748,267

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

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Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Healthier Wisconsin Partnership Program

21. "Child Maltreatment and Partner Violence: Bridging the Medical/Social/Science Gap"

AWARD FOR FISCAL YEAR 2011-2012

TOTAL AWARD \$7,142

FUNDING AGENCY: NICHHD/Sub-contract from Washington University-St. Louis

22. "M4 Global Health Elective Travel Scholarship"

AWARD FOR FISCAL YEARS: 2011-2017

**TOTAL AWARD: \$70,000** 

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: St. Joseph's Hospital Professional Emergency Services, Inc. (PES) Fund Award

23. "M4 Global Health Elective Travel Scholarship"

AWARD FOR FISCAL YEARS: 2011-2017

TOTAL AWARD: \$70,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Ewens Wicare Fund

24. "Dr. Elaine Kohler Summer Academy in Global Health Research and Electives"

AWARD FOR FISCAL YEARS: 2011-2016

TOTAL AWARD: \$255,000

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: John M. Kohler Foundation

25. "Violence Prevention Initiative Research and Evaluation Team"

AWARD FOR FISCAL YEARS: 2010-2015

TOTAL AWARD: \$1.241.473

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

26. "Strengthening Emergency Care in Belize"

AWARD FOR FISCAL YEARS: 2010-2012

**TOTAL AWARD: \$21,360** 

PRIMARY INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Wagner Foundation

27. Changing the Culture of Risky Drinking Behavior"

AWARD FOR FISCAL YEARS: 2009-2012

TOTAL AWARD: \$300,000

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

28. "Elaine Kohler Nicaragua Award"

AWARD FOR FISCAL YEARS: 2008-2016

TOTAL AWARD: \$5,000

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Julilly Kohler WI Care

29. "Kenosha County Suicide Prevention Initiative"

AWARD FOR FISCAL YEARS: 2008-2011

TOTAL AWARD: \$450,000

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

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Stephen W. Hargarten, MD, MPH

 "Train the Trainer Alcohol Screening and Intervention" AWARD FOR PERIOD: June-September 2008

TOTAL AWARD \$20,000

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Wisconsin Department of Transportation

31. "Comprehensive Injury Center at the Medical College of Wisconsin"

AWARD FOR FISCAL YEARS: 2007-2012

TOTAL AWARD: \$4,424,025

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

32. "Public Health Injury Surveillance and Program Development"

AWARD FOR FISCAL YEAR: 2007-2008

TOTAL AWARD: \$106,034

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Injury Prevention Program, Wisconsin Dept of Health and Family Services

33. "Changing the Culture of Risky Drinking Behavior"

AWARD FOR FISCAL YEARS: 2007-2008

**TOTAL AWARD: \$49,944** 

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

34. "Medical Student Training in Aging and Injury Research"

AWARD FPR FOSCA: UEARS: 2007-2012

TOTAL AWARD: \$391,068

CO-PROGRAM DIRECTOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: National Institutes of Health/National Institute on Aging

35. "Public Health Injury Surveillance and Program Development"

AWARD FOR FISCAL YEAR: 2006-2007

TOTAL AWARD: \$68,870

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Injury Prevention Program, Wisconsin Dept of Health and Family Services

36. "Strengthening Public Health Policymaking for a Healthier Milwaukee"

AWARD FOR FISCAL YEARS: 2006-2008

TOTAL AWARD: \$49,816

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Healthier Wisconsin Partnership Program

37. "Youth Suicide Prevention and Early Intervention"

AWARD FOR FISCAL YEARS: 2006-2009

TOTAL AWARD: \$100,000

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Milwaukee Mental Health Association via Substance Abuse and Mental Health Services

Administration

38. "Public Health Injury Surveillance and Program Development"

AWARD FOR FISCAL YEAR: 2005-2006

**TOTAL AWARD: \$93,228** 

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Injury Prevention Program, Wisconsin Dept of Health and Family Services

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Stephen W. Hargarten, MD, MPH

39. "Toward Regional Priorities for Injury Prevention"

AWARD FOR FISCAL YEAR: 2003

TOTAL AWARD: \$22,727

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Wisconsin Department of Health and Family Services

40. "Deaths to US Travelers Abroad"

AWARD FOR FISCAL YEAR: 2002

TOTAL AWARD: \$50,000

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Center for Disease Control and Prevention

41. "Annie E. Casey Foundation"

AWARD FOR FISCAL YEAR: 2002

TOTAL AWARD: \$68,181

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Annie E. Casey Foundation

42. "Comprehensive Injury Center at the Medical College of Wisconsin"

AWARD FOR FISCAL YEARS: 2001-2007

TOTAL AWARD: \$5,180,275

PRIMARY INVESTIGATOR: Stephen W. Hargarten MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

43. "Grants for Injury Control Research Centers – Small Project 4"

AWARD FOR FISCAL YEARS: 2001-2004

TOTAL AWARD: \$ 66,672

CO-INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Centers for Disease Control and Prevention

44. "Grants for Injury Control Research Centers – Large Project 4"

AWARD FOR FISCAL YEARS: 2001-2006

TOTAL AWARD: \$ 204,000

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

45. "Grants for Injury Control Research Centers – Large Project 3"

AWARD FOR FISCAL YEARS: 2001-2006

TOTAL AWARD: \$100,000

CO-INVESTIGATOR (IN KIND): Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

46. "Grants for Injury Control Research Centers - Core A"

AWARD FOR FISCAL YEARS: 2001-2006

TOTAL AWARD: \$ 137,380

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

47. "2nd Annual Emerging Injury Conference: International Travel Related Injury"

AWARD FOR FISCAL YEARS: 2001-2002

TOTAL AWARD: \$ 50,000

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

48. "NVDRS – Intentional Injuries and Assaults"

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Stephen W. Hargarten, MD, MPH

AWARD FOR FISCAL YEARS: 2001-2002

**TOTAL AWARD: \$75,774** 

PRIMARY INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Wisconsin Office of Justice Assistance

49. "Improving Patient Safety: Health Systems Reporting, Analysis, and Safety Improvement Research

Demonstrations"

AWARD FOR FISCAL YEARS: 2001-2004

TOTAL AWARD: \$1,418,594

CO-PI: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Agency for Healthcare Research and Quality

50. "International Injuries and Assaults"

AWARD FOR FISCAL YEARS: 2001-2002

TOTAL AWARD: \$ 68,196

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: State of Wisconsin

51. "Building a National Firearm Injury Reporting System"

AWARDED FOR FISCAL YEARS: 2000 - 2001

TOTAL AWARD: \$50,000

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Funder's Collaborative for Gun Violence Prevention by Harvard School of Public Health

National Violent Injury Statistics System (NVISS)

52. "Preventing Firearm Suicides and Unintentional Deaths"

AWARD FOR FISCAL YEARS: 2000-2001

TOTAL AWARD: \$60.000

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Funder's Collaborative for Gun Violence Prevention by Johns Hopkins Center for Gun Policy

& Research

53. "A Comprehensive Model for Firearm Injury Reporting, Analysis and Information" - Joyce 5

AWARD FOR FISCAL YEARS: 1999-2002

TOTAL AWARD: \$771,924

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Joyce Foundation

54. "Closing the Gap: Applying Injury Control Science to Patient Safety"

AWARD FOR FISCAL YEARS: 1999-2000 TOTAL AWARD: \$24,316 and \$30,000

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH FUNDING AGENCY: Centers for Disease Control and Prevention

55. "In the Wake of a Gunshot"

AWARD FOR FISCAL YEARS: 1999-2000

TOTAL AWARD: \$10,000

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Wisconsin Humanities Council and the National Endowment for the

Humanities

56. "Strategic Development of State Firearm Injury Reporting Systems"

AWARD FOR FISCAL YEARS: 1999-2000

TOTAL AWARD: \$116,911

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

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Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Open Society Institute

57. "Wisconsin Firearm Injury Reporting Systems (FIRS) – Joyce 4

AWARD FOR FISCAL YEARS: 1998-1999

TOTAL AWARD: \$95,912

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Joyce Foundation

58. "Wisconsin Drug Abuse Emergency Room Registry"

AWARD FOR FISCAL YEARS: 1998-1999

TOTAL AWARD: \$1500

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: State of Wisconsin, Dept. of Health & Family Services

59. "National Firearm Information Center" - Joyce 3

AWARD FOR FISCAL YEARS: 1997-2000

TOTAL AWARD: \$391,581

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Joyce Foundation

60. "Firearm Injury Reporting System" - Joyce II

AWARD FOR FISCAL YEARS: 1996-1998

TOTAL AWARD: \$194,538

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: Joyce Foundation

61. "Brief Strategies for Alcohol-Related Non-traffic Injuries"

AWARD FOR FISCAL YEAR: 1996

**TOTAL AWARD: \$10,904** 

PRINCIPAL INVESTIGATOR: Stephen W. Hargarten, MD, MPH

FUNDING AGENCY: University of Wisconsin - Madison

62. "Firearm Surveillance System - Wisconsin"

AWARD FOR FISCAL YEAR: 1994-1997

TOTAL AWARD: \$150,000

CO-DIRECTOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Division of Health, State of Wisconsin

63. "Firearm Injury Reporting System"

AWARD FOR FISCAL YEAR: 1994-95

TOTAL AWARD: \$50,000

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Faye McBeath Foundation

64. "Firearm Injury Reporting System" - Joyce II

AWARD FOR FISCAL YEAR: 1994-95

**TOTAL AWARD: \$79,997** 

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Joyce Foundation

65. "Emergency Room Drug Abuse Data"

AWARD FOR FISCAL YEARS: 1992 - 2000

TOTAL AWARD: \$5,000/yr.

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: State of Wisconsin

66. "Crash Outcome Data Evaluation (CODES) in Wisconsin"

AWARD FOR FISCAL YEAR: 1992-1993

TOTAL AWARD: \$15,000

CO-INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: National Highway Traffic Safety Administration

67. "Partnerships in Health/EMS Training for Poland"

AWARD FOR FISCAL YEARS: 1992-1994

TOTAL AWARD: \$2.4 million

ASSOCIATE DIRECTOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: United States Agency for International Development

68. "Emergency Medical Services Course for Physicians"

AWARD FOR FISCAL YEAR: 1992 TOTAL AWARD: \$29,789.00

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: Wisconsin Department of Transportation

69. "Motorboat Propeller Injuries in Wisconsin 1987-1989"

AWARD FOR FISCAL YEAR: 1991

TOTAL AWARD: \$2,000.00

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Institute for Injury Reduction

70. "Electronic Log System for Emergency Department"

AWARD FOR FISCAL YEAR: 1990 TOTAL AWARD: \$40.356.00

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: Wisconsin Department of Transportation

71. "Cost & Data Analysis of Motor Vehicle Trauma in Milwaukee County"

AWARD FOR FISCAL YEAR: 1990

TOTAL AWARD: \$3,417.00.

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH FUNDING AGENCY: Wisconsin Department of Transportation

72. "Hunting Injuries and Illnesses in Montana 1990"

AWARD FOR FISCAL YEAR: 1990

TOTAL AWARD: \$2,500.00

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Wilderness Medical Society

73. "Motor Vehicle Crashes - Emergency Physician Costs"

AWARD FOR FISCAL YEAR: 1990

TOTAL AWARD: \$6,000.00

PRINCIPAL INVESTIGATOR: Stephen Hargarten, MD, MPH

FUNDING AGENCY: Wisconsin Safety Belt Coalition

# Invited Lectures/Testimony:

1. "Gun Violence as a Biopsychosocial Disease," Midwest Injury Prevention Alliance Virtual Summit, December 9, 2020.

- 2. "Global Health from Neighborhoods to Nations", Milwaukee Academy of Medicine, Virtual Webinar, November 17, 2020.
- 3. "Impact of COVID-19 on the University's Global Health Programming," 7<sup>th</sup> Annual Midwestern Universities for Global Health, Virtual Webinar, September 30.
- 4. "Gun Violence in the Americas: Local Solutions to a Hemispheric Challenge," Consortium of Universities for Global Health, Virtual Webinar, July 16, 2020.
- 5. "Assault Weapons Ban in the Americas," Newtown Action Alliance, Virtual Webinar, July 9, 2020.
- 6. "Gun Violence in Mexico and Central America," Consortium of Universities for Global Health, Virtual Webinar, April 21, 2020.
- 7. "The Milwaukee Global Health Landscape Study," Milwaukee Global Health Consortium, Virtual Webinar, April 13, 2020.
- 8. "Gun Violence in the Americas Focus: Mexico," Consortium of Universities for Global Health, Virtual Webinar, March 24, 2020.
- 9. "Physician Advocacy," Medical College of Wisconsin Health Policy and Advocacy Course, Milwaukee, WI, March 23, 2020.
- 10. "Understanding the Biopsychosocial Aspects of Violence Involving Firearms," American Hospital Association Webinar Series on Gun Violence, Virtual Presentation, February 19, 2020.
- 11. "Gun Violence: A Biopsychosocial Disease," 2020 Comprehensive Injury Center Lecture Series, Medical College of Wisconsin, Milwaukee, WI, January 23, 2020.
- 12. Assembly Health Committee Public Hearing (Military Civilian Partnership + Cancer Clinical Trials Legislation), Madison, WI, January 7, 2020.
- 13. "Global Burden of Gun Violence," University of Wisconsin Population Health Seminar Series, University of Wisconsin, Madison, WI, December 2, 2019.
- 14. "Gun Violence: A Biopsychosocial Disease," Department of Medicine Grand Rounds, Medical College of Wisconsin, Milwaukee, WI, September 27, 2019.
- 15. "Suicide in Wisconsin: Considerations for Prevention," Wisconsin State Legislature's Suicide Prevention Task Force Testimony, Milwaukee, WI, September 9, 2019.
- 16. "Gun Violence: A Biopsychosocial Disease," Department Conference, Department of Emergency Medicine, Medical College of Wisconsin, Milwaukee, WI, August 8, 2019.
- 17. "Road Traffic Injury Prevention and Violence Injury Prevention," International Congress on Emergency Medicine Meeting, Seoul, South Korea, June 12, 2019.
- 18. "Gun Violence Prevention: Dispelling Myths, Understanding Science, Strengthening Prevention, Programs, and Policies," Community Conversations, La Crosse, WI, April 24, 2019.
- 19. "Gun Violence: A Biopsychosocial Disease," Toward One Wisconsin Inclusivity Conference, Milwaukee, WI, April 11, 2019.
- 20. "Motor Vehicle Crash Deaths and Injury Moving to Zero," Wisconsin Medical Society Physician Education Conference, Madison, WI, April 6, 2019.

- 21. "Gun Violence: A Biopsychosocial Disease," Wisconsin Medical Society Physician Education Conference, Madison, WI, April 6, 2019.
- 22. "Injury as a Biopsychosocial Disease," Wisconsin Violence and Injury Prevention Program Summit, Madison, WI, April 4, 2019.
- 23. "Gun Violence: A Biopsychosocial Disease," Society for the Advancement of Violence and Injury Research Conference, Cincinnati, OH, April 2, 2019.
- 24. "Gun Violence: A Complex Biopsychosocial Disease," Grand Rounds, University of Wisconsin School of Medicine and Public Health, Madison, WI, February 21, 2019.
- 25. "Why Do Health Systems Have A Role?" NASEM: Health Systems Interventions to Prevent Firearm Injuries & Death A Workshop, Washington DC, October 17, 2018
- "Vision Zero Emphasis on Public Health" Transportation Research Board Transportation Safety Management Mid-Year Meeting, Washington DC, July 30, 2018
- 27. "Gun Violence: A Biopsychosocial Disease: Myths, Science & Prevention", 2018 Preventive Medicine Annual Meeting, American College of Preventive Medicine, Chicago, ILL, May 24, 2018
- 28. "International Challenges and Higher Education", 39<sup>th</sup> Annual National Conference on Law & Higher Education. Stetson University College of Law, Clearwater, FL, February 3, 2018
- 29. "Faculty promotion for global health" 4th Annual Midwest Universities for Global Health Meeting: Capacity Building in Global Health at Washington University Medical School, December 1, 2017.
- 30. "Gun Violence: A Biopsychosocial Disease: Physician Roles and Responsibilities", Grand Rounds, University of Michigan Emergency Medicine Residency Conference, Ann Arbor, MI, November 8, 2017.
- 31. "International Partnerships: Global Wisdom, Global Citizens" American Association of Medical Colleges, Boston, MA, November 5, 2017.
- 32. "Legal Characteristics of Emergency Medicine" Belize Medical and Dental Association XXXVI Congress, Belize City, Belize, October 17, 2017.
- 33. "Global Health Challenges: The Burden of Injury" University of Norte Dame Eck Institute for Global Health, Norte Dame, IN September 28, 2017.
- 34. "Gun Violence: Myths, Science, Opportunities", Underground Science Society, The Sugar Maple, i. Milwaukee, WI, September 11, 2017.
- 35. "Gun Violence as a Biopsychosocial Disease Burden: Our Roles and Responsibilities" for The Violence Epidemic: Justice, Public Health and Ethics, Center for Bioethics and Medical Humanities, Medical College of Wisconsin, Milwaukee, WI, June 13, 2017.
- 36. "Global Burden of Road Traffic Injury: Opportunities and Strategies for Prevention and Control: Roles of Civil Society" Consortium of Universities for Global Health, Washington DC, April 8, 2017.
- 37. "Gun Violence: A Biosocial Disease" Keynote for Wisconsin Chapter of American College of Emergency Physician's 2017 Spring Symposium, Madison, WI, March 28, 2017.
- 38. "Global Burden of Injury" Hainan Medical University, Hainan, China, March 15, 2017.

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- 39. "MCW's Impact on the World: From Milwaukee, Wisconsin to Around the Globe", MCW/Marquette Medical Alumni Association 51st Clinical Conference, Sonoma, CA, March 7, 2016.
- 40. "Global Health and Medical Education: The Ethics of Short-term International Electives" Advancing Global Health: Ethical and Logistical Issues, Bronx, NY, December 5, 2016.
- 41. "Global Emergencies" Belize Medical and Dental Association XXXV Congress, Belize City, Belize, November 17, 2016
- 42. "Shoot to Kill: Shooting Trends Across the Nation" Panel at Marquette University, Milwaukee, WI, i. October 14, 2016.
- 43. "Gun Violence: A Biosocial Disease", Sanford Trauma Symposium, South Dakota Department of Health, Sioux Falls, SD, October 11, 2016.
- 44. "Global Health from a Milwaukee Perspective" Marquette University Global Health Symposium, Milwaukee, September 30, 2016
- 45. "Study Abroad Student Safety", Wisconsin Association of Independent Colleges and Universities Student Safety Workshop, Milwaukee, September 28, 2016
- 46. "Global Health Challenges", Notre Dame University, Notre Dame, IN, September 1, 2016
- 47. "Beyond the Basics of Health, Safety, Security and Risk Management", Keynote Speaker for The Forum on Education Abroad Standards of Good Practice Institute, Northwestern University, Evanston, IL, June 23, 2016.
- 48. "Global Burden of Injury" University College of Dublin, Dublin, Ireland, June 8, 2016
- 49. "Global Health: The Ultimate Sustainable Challenge", Sustainability Summit, Milwaukee, May 13, 2016
- 50. "Medical Student Perspectives on Global Health" MCW Today, Tomorrow, and Beyond Symposium Alumni Weekend, Milwaukee, April 30, 2016
- 51. "Gun Violence: A Biosocial Disease" for Medical College of Wisconsin Nursing Trauma Conference, Milwaukee, WI, April 23, 2016.
- 52. "Gun Violence: A Biosocial Disease", Keynote Speaker for Gun Violence: A Public Health Symposium, Washington University Institute for Public Health, St. Louis, MO, April 5, 2016.
- 53. "How Violence Impacts Public Health", Panel Participant for University of Wisconsin-Zilber School of Public Health, Milwaukee, WI, February 25, 2016.
- 54. "Programs and Policy: Addressing a Global Need for Surgery and Emergency Care" and "Global Burden of Injury", Global Health Conference Midwest, Creighton University, Omaha, NE, February 6, 2016.
- 55. "Inequality and Freedom from Violence: Community violence has identifiable causes and implementable cures" University of Wisconsin-Milwaukee Fireside Forum, Milwaukee, WI, February 2, 2016
- 56. "Global Health: Managing Health & Safety", 2nd Annual Midwestern Universities for Global Health, Rush University, Chicago, IL, December 2, 2015
- 57. "Global Burden of Injury" Visiting Professor, Notre Dame, Notre Dame, IN, October 15, 2015
- 58. "Global Burden of Injury" Visiting Professor, University of Wisconsin, Madison, WI, October 12, 2015

- 59. "Challenges and Opportunities in Academic Medicine: Collaborating for Global Health" Visiting Professor, Universidad Católica de Guayaquil, Guayaquil, Ecuador, May 6, 2015
- 60. "Disaster Preparedness & Response: An All Hazard Approach" Consortium of Universities for Global Health Annual Meeting, Boston, MA, March 26, 2015
- 61. "Injury Science and Geriatrics: Coming of Age Together", Visiting Professor, Weill Cornell Medical College, Division of Geriatrics & Palliative Medicine Grand Rounds, New York, NY, February 12, 2015
- 62. "Emergency Medicine and Injury Prevention and Control: A Room with a View", Visiting Professor, Weill Cornell Medical College, Divisions of Emergency Medicine and Geriatrics & Palliative Medicine Grand Rounds, New York, NY, February 11, 201.5
- 63. "Firearm Injuries", Community Memorial Hospital Medical Staff Education Program, Menomonee Falls, WI, January 16, 2015.
- 64. "Firearm Injuries", Institute of Medicine Forum on Violence, Washington, DC, December 17, 2014
- 65. "Global Health Managing Traveler Safety" Midwest Universities for Global Health Inaugural Meeting, University of Illinois at Chicago Center for Global Health, December 3, 2014
- 66. "Global Health and Medical Education: The Ethics of Short-term International Electives" Advancing Global Health: Education, Building, and Support, Albert Einstein College of Medicine, Bronx, New York, November 10, 2014
- 67. "Strengthening Emergency Care in Belize" 33rd Belize Medical and Dental Association International Congress, Belize City, Belize, October 31, 2014
- 68. "Triage Use and Implementation" 33rd Belize Medical and Dental Association International Congress, Belize City, Belize, October 31, 2014
- 69. "The Science of Injury Prevention and Control" University of Zagreb School of Medicine, Zagreb, Croatia, September 9, 2014
- 70. "Challenges and Opportunities in Academic Medicine: Collaborating for Global Health", University of Rzeszow Jubilee of Medical Faculty, Rzeszow, Poland, September 5, 2014
- 71. "Burden of Global Violence/Injury" for the 2014 World Affairs Seminar, Carroll University, Waukesha, Wisconsin, June 23, 2014
- 72. "Practical advice for implementing useful global health curricula and effective academic programs" USAID The Future of Global Health: Building Better Professionals & Programs, Washington DC, May 9, 2014
- 73. "Global Health and Partnerships" Shanghai Minhang Central Hospital, Shanghai, China, April 25, 2014
- 74. "Organizing Injury prevention and control programs" 2014 China- US-Japan Summit Forum of Emergency Medicine, Xinhua Hospital, Shanghai, China, April 25, 2014
- 75. "Technical Consultation for United Nations Office for Disarmament Affairs", Research and Information Gathering Participant, UN Headquarters, New York, NY, November 19, 2013.
- 76. "Gun Violence as a Public Health Issue", Tuesday Speaker for Milwaukee Rotary Club, War Memorial, Milwaukee, WI, October 29, 2013

- 77. "Transportation Safety and Injury Prevention," Keynote Speaker for Midwest Conference of Institute of Transportation Engineers, Pfister Hotel, Milwaukee, WI, June 27, 2013.
- 78. "Patient Safety or Injury Control: Two Worlds or One?", Patient Safety Summit, Johns Hopkins, Baltimore, MD, June 21, 2013
- "Gun-Related Violence", Guest Speaker for Milwaukee Forum, Haggerty Museum, Milwaukee, WI, January 17, 2013.
- 80. "Gun Policy Summit". Expert Panel Participant, Johns Hopkins University, Baltimore, MD, January 14-15, 2013.
- 81. "Emergency Medicine: Going Global", Guest Speaker for Klippel Lecture, Washington University School of Medicine, St. Louis, MO, December 4, 2012.
- 82. "Global Burden of Injury", Introduction to Public Health: Global Health, Carroll University, Waukesha, WI, November 30, 2012, April 20, 2012, November 11, 2011
- 83. "Gun Violence: The Strengths and Limits of the Disease Model", Guns in America: Conflicting Points of View, University of Wisconsin, Madison, WI, November 1, 2012.
- 84. "Increasing Utilization of NVDRS Data", National Violent Death Reporting System Reverse Site Visit, Atlanta, GA, September 13, 2011.
- 85. "Researching Car Crashes and Gun Shot Wounds: Products, Problems, Policies," and "Opportunities in Injury Research: Getting Started and Connecting the Dots", Visiting Lecturer for the University of Alberta, Canada, June, 2011.
- 86. "Congressional Briefing". Expert Testimony, Association for Safe International Road Travel and the U.S. Congressional Caucus on Global Road Safety, United Nations Decade of Action for Road Safety 2011-2020 United Nations, Washington, DC, May 11, 2011.
- 87. "The Team Approach to Caring for Acutely Injured Patients", Jao Tong University, Xinhua Hospital, Shanghai, China, November 9, 2010.
- 88. "Trauma Evaluation and Management, TEAM" for 29th Belize Medical and Dental Association International Pre-Congress, Belize City, Belize, October 20, 2010.
- 89. "The Emergency Department and Systems Approach to Emergency Medicine" for 29th Belize Medical and Dental Association International Pre-Congress, Belize City, Belize, October 19, 2010.
- 90. "The Public Health Approach to Violence Prevention in Health Care Settings" for International Association for Healthcare Security and Safety Conference, Baltimore, MD, June 22, 2009.
- 91. "Epidemiology of Travel-Related Injury & Death" for 11<sup>th</sup> Conference of the International Society of Travel Medicine, Budapest, Hungary, May 26, 2009.
- 92. "Reducing Firearm Injuries and Death: A Public Health Approach" for Trauma Conference, Kent State University, Canton, OH, November 7, 2008.
- 93. "Guns and Cars: A Tale of Product Design Flaws Linked with Death & Injury" for Trauma Conference Kent State University, Canton, OH, November 7, 2008.
- 94. "Gun Violence" for Grand Rounds, Mount Sinai Hospital, Milwaukee, WI, October 17, 2008.

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- 95. "Town Hall Meeting Status of Impaired Driving in Wisconsin" for MADD, NHTSA, DOT in Middleton, WI, August 14, 2008.
- 96. "Guns and Cars: Stories for preventing car and gun related deaths" for Grand Rounds, Columbia-St. Mary's, Milwaukee, WI, June 13, 2008.
- 97. "Panel on Urban Studies Programs" for 2<sup>nd</sup> Annual Henry W. Maier State of Milwaukee Summit, Milwaukee, WI, April 30, 2008.
- 98. "The Public Health Approach to Reduce Alcohol Related Injury and Death" Noon Conference for Gundersen Lutheran Trauma & Emergency Center, LaCrosse, WI, November 1, 2007
- 99. "From the Bedside to the Community and Beyond: The Physician's Role in Injury Prevention and Control", Grand Rounds, Philadelphia, PA, October 23, 2007.
- 100. "Public Health Approach to Reducing the Burden of Suicide" Grand Rounds for Psychiatry, St. Joseph's Outpatient Conference Center, Milwaukee, WI, June 20, 2007.
- 101. "Violence is a Disease", 2007 Global Health and Social Justice Conference, University of Wisconsin-Milwaukee College of Nursing, Milwaukee, WI, March 29, 2007.
- 102. "Burden of Injury in Wisconsin: Spelling It Out", Injury Summit, Holiday Inn, Neenah, WI, October 25, 2006.
- 103. "Injury Policy Forum", EMSC Policy Forum, Monona Terrace, Madison, WI, March 21, 2006.
- 104. "To Be or Not to Be: Case Studies in Injury Control and Advocacy", Seminar on Gun Violence, University of Wisconsin, Population Health Institute, Madison, WI, December, 2005.
- 105. "Emergency Medicine Leadership", Yale University, Section of Emergency Medicine, April 2005
- 106. "Emergency Medicine Leadership," Brown University, Department of Emergency Medicine, March 2005
- 107. "Emergency Medicine Leadership", University of Alabama-Birmingham, Department of Emergency Medicine, November 2002
- 108. "Medical Examiner and Coroner Data for Public Health: A Model Linked System", Institute of Medicine Workshop on the Medicolegal Death Investigation System, Washington, DC, March 23-25, 2003.
- 109. "The National Violent Death Reporting System: It's About Time We're Connecting-the-Dots for Injury Prevention", University of North Carolina Injury Prevention Research Center Seminar, Chapel Hill, NC, March 17-19, 2003.
- 110. "Emergency Medicine Leadership in the 21st Century: Guns and Cars, Acute Care, and Injury Prevention", University of North Carolina Injury Prevention Research Center Seminar, Chapel Hill, NC, March 17-19, 2003.
- 111. "Medical Injury", Grand Rounds at the University of Western Ontario, Ontario, Canada, January 24, 2003.
- 112. "Planning for a State Violent Death Reporting System", National Violent Death Reporting System Implementation Training, Atlanta, Georgia, January 16-17, 2003.
- 113. "Advocacy in Emergency Medicine", Grand Rounds at the University of Alabama Birmingham, Birmingham, A., November 20, 2002.
- 114. "Causes of Gun Crime", American Society of Criminology Conference, Chicago, IL, November 12, 2002.

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- 115. "Nonfatal Gun Injuries What We Know, Don't Know and Need to Know", The 7th HELP Network Conference, Chicago, IL, October 27, 2002.
- 116. "Youths and Guns", Gun Violence Workshop, The National Academies National Research Council Institute of Medicine, Washington, D.C., September 16, 2002.
- 117. "Injury Prevention: Creating an Agenda for Action", Springfield, Illinois, July 31, 2002.
- 118. "The Public Health Approach to reducing firearm related deaths", Coalition Against Gun Violence, Cleveland, Ohio, June 6, 2002.
- 119. "The Physician Scientist as Advocate", The Spivey Lecture, Society for Academic Emergency Medicine Annual Meeting, St. Louis, MO, May 16, 2002.
- 120. "Firearm suicides: A two-state comparison", 6<sup>th</sup> World Conference on Injury Prevention and Control, Montreal, Quebec, Canada, May 12-15, 2002.
- 121. "Travel related injury prevention for students", NAFSA Conference, University of Wisconsin Milwaukee, Milwaukee, WI, April 18, 2002.
- 122. "Suicide among Wisconsin farmers", American Association of Suicidology, 35<sup>th</sup> Annual Conference, Bethesda, MD, April 10-13, 2002.
- 123. "The relationship between health providers and law enforcement: Information sharing and lessons learned in the Firearm Injury Reporting System", 30th Annual Conference on Value Inquiry Values in Health Care: Past, Present and Future, Milwaukee, WI, April 4-6, 2002.
- 124. "The Public Health Approach to Reducing Firearm Injuries", 13th Annual Trauma Symposium for Coastal Area Health Education Center, Wilmington, NC, February 9, 2002.
- 125. "Emergency Medicine and Advocacy", Department of Emergency Medicine Grand Rounds at Johns Hopkins School of Medicine, Baltimore, MD, January 31, 2002.
- 126. "Gun Violence and Gun Policy Conference", Brookings Institute, Washington, D.C., January 25, 2002.
- 127. "Emergency Medicine Advocacy: A Model Discussion", Northwestern University, Department of Emergency Medicine, December 2001.
- 128. "Emergency Medicine Advocacy", Northwestern University, Chicago, Illinois, December 19, 2001.
- 129. "Firearm suicide in Wisconsin 1999: Urban/rural and age-related patterns", Mobilizing for a Safe USA, Atlanta, GA, December 3-5, 2001.
- 130. "Improve Research Information and Data on Firearms", National Academy of Science Committee, 2<sup>nd</sup> Meeting, Irvine, CA, November 15, 2001.
- 131. "The Public Health Approach to Reducing Firearm Injuries", AMA Key Stakeholders Meeting, Oak Brook, IL, November, 2001.
- 132. "Linking the gun with homicides and suicides: A model analysis of the who, when, and where of the gun's first purchase", American Society of Criminology, Atlanta, GA, November 6-10, 2001.
- 133. "Firearm Injury Data Systems", AMA Science Reporters Conference, San Francisco, California, October 30, 2001.

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- 134. "Firearm suicide: The Wisconsin experience, 1999", American Public Health Association, 129th Annual Meeting, Atlanta, Georgia, October 20-24, 2001.
- 135. "Relationship of household gun ownership to firearm suicide rates in Wisconsin communities", American Public Health Association, 129<sup>th</sup> Annual Meeting, Atlanta, Georgia, October 20-24, 2001.
- 136. "Firearm Homicide in Milwaukee and the Progress of the Firearm Injury Reporting System", The Milwaukee Fire and Police Commission, Milwaukee, Wisconsin, October 18, 2001.
- 137. "Identification and Classification of Homicide in Wisconsin 2000: A Comparison of Two Data Systems", Medical College of Wisconsin 2001 Student Research Forum, Milwaukee, Wisconsin, October 4, 2001.
- 138. "Demonstrating the Linkage of Data Sets from the Firearm Injury Center and the City of Milwaukee Using Geographic Information System Analysis" Medical College of Wisconsin 2001 Student Research Forum, Milwaukee, Wisconsin, October 4, 2001.
- 139. "The Public Health Challenge and the Model Firearm Injury Reporting System", Plenary Presentation, Aiming for Prevention: International Medical Conference on Small Arms, Helsinki, Finland, September 28-30, 2001.
- 140. "Highlights of the Firearm Injury Reporting System's first statewide report: Investigating regional differences", 13<sup>th</sup> Annual Milwaukee County Medical Examiners Office Forensic Science Seminar, Milwaukee, Wisconsin, September, 2001.
- 141. "What We Don't Know is Killing Us: The Need for Better Data about Firearm Injuries and Deaths", National Academy of Sciences Committee on Law and Justice, Washington, DC, August 30, 2001.
- 142. "Injury Control of Gun Shot Wounds", Advances in Trauma, American College of Surgeons, Kansas City, Missouri, December 8, 2000.
- 143. "Trauma Care in the State of Wisconsin", 2000 Annual Meeting of the Wisconsin Chapter of the American College of Surgeons, Waukesha, Wisconsin, December 2, 2000.
- 144. "Travel Health: Clinical Issues for Occupational and Environmental Health Providers", American Occupational Health Conference, American College of Occupational and Environmental Medicine, Philadelphia, Pennsylvania, May 18, 2000.
- 145. "To Be or Not to Be a Physician Scientist Advocate: That is the Question", Emergency Medicine Spring Research Forum, University of Michigan, Ann Arbor, May 2000.
- 146. "US Citizen Deaths Abroad: What we know, don't know, and need to know to prevent them", Occupational Health Conference, Philadelphia, Pennsylvania, May 14, 2000.
- 147. "Firearms: The Need for Better Information and Safer Guns", Commission for the Prevention of Youth Violence, American Medical Association, Houston Texas, May 9, 2000.
- 148. "Understanding State-of-the-Art Treatment & Prevention of Firearm Injuries", National Conference for Health Care Professionals, Froedtert Memorial Lutheran Hospital, Milwaukee, WI, December 10-11, 1999.
- 149. "Better Data, Safer Guns Equals Fewer Injuries", Gun Violence Forum, Entertainment Industries Council, Los Angeles, California, November 3-4, 1999.
- 150. "Bridging the Gap between Information and Policy: A Public Health Approach to Reducing Firearm Injuries", Conference of Wisconsin Network for Health Policy Research, University of Wisconsin School of Medicine, Madison, WI, November 4-5, 1999.

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- 151. "Counting Firearm-related Deaths: A case study for better surveillance and knowledge through data linkage," Emergency Medicine New England Conference, Newport, Rhode Island, August 11-13, 1999.
- 152. "Guns, Cars & Death: A View from a Room," Department of Emergency Medicine and Division of Traumatology and Surgical Critical Care Grand Rounds, University of Pennsylvania Medical Center, Philadelphia, PA, July 9, 1999.
- 153. "The Scientist as Policy Advocate: Clarifying the Issues and Framing the Data for Effective Policy Development and Debate," 1999 Society for Academic Emergency Medicine Annual Meeting, Boston, MA, May 23, 1999.
- 154. "Firearm Injury Surveillance", The 5<sup>th</sup> Annual Citizens' Conference to Stop Gun Violence, The Educational Fund to End Handgun Violence, Washington DC, November 13-14, 1998.
- 155. "Public Health Strategies to Address Family Violence", National Advisory Council on Family Violence, Rosemont, IL, April 4, 1998.
- 156. "Rapid Deceleration Injuries Involving Recreational Vehicles", Flight for Life's Annual Emergency Services Conference: Trends and Issues 1998, Flight for Life, Milwaukee, WI, April 4, 1998.
- 157. "Rapid Deceleration Injuries Involving Recreational Vehicles", Flight for Life's Annual Emergency Services Conference: Trends and Issues 1998, Flight for Life, Milwaukee, WI, March 31, 1998.
- 158. "Taking Aim at Cars and Guns", Skills Fair 1998, Shared Governance Development Council, Froedtert Memorial Lutheran Hospital, Milwaukee, WI, March 26, 1998.
- 159. "Preventing Firearm Injury: Protecting Our Children", Firearm Injury Prevention Training Conference, American Academy of Pediatrics, Chicago, IL, March 14-15, 1998.
- 160. "Scope and Nature of Firearm Injury Research: Issues and Challenges" Injury Prevention Research Center, The University of Iowa, Iowa City, IO, February 1998.
- 161. "Mechanism of Injury", Flight for Life's Trauma Nurse Specialist Course, Flight for Life, Milwaukee, WI, February 4, 1998.
- 162. "Scope and Nature of Firearm Injury Research: Issues and Challenges", University of Iowa Injury Prevention Research Center, Iowa City, IO, February 3, 1998.
- 163. "Adult Option of the Master's Program in Nursing" Medical College of Wisconsin, Fall Semester, Marquette University College of Nursing, Milwaukee, WI, August 24 December 6, 1997.
- 164. National HELP Conference -Tracking the Firearm Epidemic National Conference, Washington DC, April 1997.
- 165. Lafollette Institute-Public Health Model for Reducing Firearm Injuries and Deaths, Madison, WI, April 1997.
- 166. "Futures in Emergency Medicine Research Conference, Macy Foundation, Washington D.C., March 1997 (invited as representing the Association of Academic Chairs in Emergency Medicine)
- 167. "Emergency/Trauma Medicine." Sheboygan Memorial Medical Center, Knights of Columbus Center, Sheboygan, WI, February 18, 1997.
- 168. "Firearm Injury Prevention: A Model Strategy." Medical College of Wisconsin, Winter Refresher Course for Family Physicians, Pfister Hotel, Milwaukee, WI, January 30, 1997.
- 169. The Johns Hopkins School of Public Health and Hygiene, Gun Policy and Research Center, Baltimore, MD December 3-6, 1996.

- 170. "The Nature and Scope of Firearm Injury Research: Issues and Challenges." Visiting Professor, The Johns Hopkins School of Public Health and Hygiene, Gun Policy and Research Center, Baltimore, MD, December 3-6, 1996.
- 171. "The Milwaukee County Firearm Injury Reporting System." Healthy People, National Health Promotion and Disease Prevention Objectives, Violent and Abusive Behavior 1996 Progress Review, Washington, DC, November 26, 1996.
- 172. "Violence Prevention." Tenth Annual Summer Trauma Symposium. Paper Valley Hotel & Conference Center, Appleton, WI, June 1996.
- 173. "Teenage Violence." Tenth Annual Summer Trauma Symposium. Paper Valley Hotel & Conference Center, Appleton, WI, June 1996.
- 174. Injury Prevention and Control for Emergency Medicine, Department of Emergency Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA, May 1996.
- 175. "Firearm Injury Surveillance System." 1996 Attorney General's Law Enforcement Conference, Stevens Point, WI, May 1996.
- 176."The Milwaukee County Firearm Injury Reporting System." Visiting Professor, Department of Emergency Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA, May 1996.
- 177. "Tracking the Epidemic." Third Annual HELP Network Conference: Promoting Public Policy for the Public's Health, guest lecturer, Washington, DC, November 1995.
- 178. "Injury and Violence Prevention: Confronting the Crisis." 69th National School Health Conference of the American School Health Association, Milwaukee, WI, October 1995.
- 179."Guns and Violence: The Tragic Cost." National Violence Prevention Conference, University of Iowa, Des Moines, IA, October 1995.
- 180. "Monitoring Firearm Injuries." National Violence Prevention Conference, University of Iowa, Des Moines, IA, October 1995.
- 181. "Rural Trauma/Rural Violence." Day of Country Medicine Conference, Howard Young Medical Center, Minocqua, WI, September 1995.
- 182. "Firearm Violence and Gun Control in America." Panel participant at the Wisconsin Surgical Society meeting, Lake Geneva, WI, September 1995.
- 183. "Milwaukee County Firearm Injury Reporting System: A Model for Injury Prevention." State of Wisconsin, Department of Health and Social Services, Milwaukee Managed Care Forum, Milwaukee, WI, August 1995.
- 184. "Firearm Injury Prevention for Primary Care Physicians." Family Practice Grand Rounds, Waukesha Memorial Hospital, August 1995.
- 185. "Strategies to Reduce Firearm Deaths." Wisconsin Council of Administrators of Special Services, Ltd., Madison, WI, May 1995.
- 186. "Violence Prevention." State Medical Society of Wisconsin Alliance, 66th Annual Convention, Milwaukee, WI, April 1995.

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- 187. "Emergency Medicine Research: A View from the Riverbank." Faculty Development Seminar Series, University of Illinois at Chicago, Department of Emergency Medicine, Chicago, IL, March 1995.
- 188. "Committee on Transportation and Infrastructure Subcommittee on Surface Transportation." Advocates for Highway and Auto Safety, Washington, DC, March 1995.
- 189."Firearm Injuries and Deaths." Department of Psychiatry, University of Wisconsin Madison Medical School, Milwaukee Campus, WI, March 1995.
- 190. "Firearms, Violence and Prevention." Public Issues Committee, Family Service of Milwaukee, Milwaukee, WI, March 1995.
- 191. "Injury Control." Grand rounds, Department of Emergency Medicine, William Beaumont Hospital, Department of Emergency Medicine, Royal Oak, MI, March 1995.
- 192. "Understanding How to Access Health Care Delivery Systems II Conference." Milwaukee Regional Medical Complex, Milwaukee, WI, March 1995.
- 193. "Proposal to Establish a Reporting System for Firearm Injuries." Public Issues Consortium, 12th Annual Legislative Breakfast, Milwaukee, WI, January 1995.
- 194. "Firearm Violence: A Public Health Issue." Marquette University College of Nursing, Milwaukee, WI, January 1995.
- 195. "Handgun Violence as a Public Health Problem in our Community." Social Development Commission, November 1994.
- 196. "Integrated Firearm Injury Reporting System: A Model for Communities." Second Annual HELP Conference, Chicago, IL, October 1994.
- 197. "Violence and Firearms: Reshaping the Discussion and Restructuring the Prevention Strategies." Forum on Youth Violence Conference, Wisconsin AODA Education Network, Stevens Point, WI, October 1994.
- 198. "Injury Control and Emergency Medicine." American College of Emergency Physicians Scientific Assembly, Orlando, Florida, September 1994.
- 199. "Trauma Systems." American College of Emergency Physicians Scientific Assembly, Orlando, Florida, September 1994.
- 200. "Firearm Injury and Death Problems in the United States, Wisconsin, and Milwaukee." Wisconsin Coroners & Medical Examiners Association, Oshkosh, WI, June 1994.
- 201. "Firearm Injuries and Deaths: Reshaping the Discussion." Department of Emergency Medicine, University of Missouri-Kansas City School of Medicine, Kansas City, MO, June 1994.
- 202. "Injury Prevention and Control and Emergency Medicine." Department of Emergency Medicine, University of Missouri-Kansas City School of Medicine, Kansas City, MO, June 1994.
- 203. "The Science of Injury Prevention: A Framework for Violence Prevention." The University of Wisconsin Milwaukee, School of Nursing, Continuing Education and Outreach Program, Milwaukee, WI, March 1994.
- 204. "Firearm Injuries and Deaths: Reshaping the Discussion." Columbia Hospital Grand Rounds, Milwaukee, WI, February 1994.
- 205. "Injury Patterns of Motor Vehicle Crashes." Wisconsin EMT Association Annual Conference, Milwaukee, WI, January 1994.

- 206. "Firearm Injuries and Deaths: Reshaping the Discussion." Milwaukee Forum, Milwaukee, WI, November 1993.
- 207. "Alcohol and Medicine: An Emergency Medicine Perspective." Association of American Medical Colleges, Washington, DC, November 1993.
- 208. "Handguns: Taking Aim at the Problem." Emergency Nurses Association Annual Meeting, LaCrosse, WI, September 1993.
- 209. "Violence and the Elderly." Wisconsin Chapter American College of Emergency Physicians Annual Conference, LaCrosse, WI, September 1993.
- 210. "Advocacy in Public Health Workshop." Wisconsin Public Health Association Annual Conference, Appleton, WI, June 1993.
- 211. "State of the Art Session on Injury Control." Society for Academic Emergency Medicine, San Francisco, CA, May 1993.
- 212. "Injury Prevention: A Crucial Aspect of Travel Medicine." Third Biennial International Travel Medicine Society Meeting. Paris, France, April 26, 1993.
- 213. "Firearms Deaths and Injuries." Emergency Nurses Association Milwaukee Chapter, Milwaukee, WI, January 1993.
- 214. "Facial Injuries: Epidemiology, Acute Care, and Prevention." Wisconsin Emergency Medical Technician Association Annual Meeting, Milwaukee, WI, January 1993.
- 215. "Boating Injuries and Deaths: Challenges for Emergency Medical Services." American Trauma Society Wisconsin Division, Stevens Point, WI, December 1992.
- 216. "Firearm Injuries: Public Policy Issues, Data Sources for Firearms Injuries." American Public Health Association, Washington, DC, November 1992.
- 217. "Data Sources for Firearms Injuries: Problems and Opportunities." Milwaukee Academy of Medicine, Milwaukee, WI, November 1992.
- 218. "EMTs and Injury Prevention: It's in our job description." American Trauma Society Wisconsin Division, Milwaukee, WI, December 1991.
- 219. "Firearms and Children." Wisconsin Nurse Practitioners Conference, Madison, WI, November 1991.
- 220. "Drownings: Acute care and prevention." American Red Cross Milwaukee Chapter, Milwaukee, WI, January 1991.
- 221. "Fire-safe cigarettes." Illinois Public Health Association, Chicago, IL, May 1990.
- 222. "Travel-related mortality." Travel Medicine Update Conference, Seattle, WA, May 1990.
- 223. "Travel-related illness Where have you been lately?" Wisconsin Chapter, American College of Emergency Physicians, October 12, 1989.
- 224. "Travel-related mortality." Travel Medicine Conference, Seattle, WA, May 1988.
- 225. "Motor Vehicle Crashes and Seat Belts." Beloit Memorial Hospital, May 1987.

## Exhibits:

1. Producer: Photograph Exhibit - "Portraits of the Silent Epidemic" - Head Injury in Wisconsin, 1988.

## Medical College Committees:

Chair, Global Health Advisory Council, 2014-2019

Chair, Milwaukee Regional Medical Center Strategic Planning for Global Health, 2014- 2015

Chair, Global Health Department Liaisons, 2011- present

Board Member, Medical College Physicians, 2000-2017

MCP Finance Committee, 2005-2007

Froedtert Credential Committee, 2005-2007

Chair, Global Health Program Advisory Council, 2010-2011

Member Department of Medicine Search Committee, Medical College of Wisconsin, 2000

Froedtert & Medical College Joint Management Cabinet, 1997-2000

Faculty Career Development Advisory Committee, Medical College of Wisconsin, 1998 - 2003

Chair, Ad Hoc Committee for M3/M4 Curriculum, 1998

Intramural Review Committee, Department of Medicine, Medical College of Wisconsin, 1999

Intramural Review Committee, Department of Family Medicine, Medical College of Wisconsin, 1997

Clinical Practice Group Committee, Medical College of Wisconsin, 1995 - 2000

Curriculum and Evaluation Committee, Medical College of Wisconsin, 1998 – 2000

Executive Committee of the Faculty, Medical College of Wisconsin, 1994 – present

Nominating Committee - Medical College of Wisconsin, 1992 – 1995

## Medical College Teaching:

- 1. MCW Faculty's Efforts in Low- and Middle-Income Countries" PhD in Public and Community Health Seminar, January 10, 2018
- 2. "MCW's Impact on the World: From Milwaukee, Wisconsin to Around the Globe", Asthma/Allergy, and Clinical Immunology Grand Rounds, Children's Hospital of Wisconsin, September 22, 2017

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- 3. "Global Health Electives: What to Consider with International Travel Health and Wellness" Global Health Elective Preparation, September 12, 2017
- 4. "MCW's Global Health Efforts and Opportunities for Pharmacy" School of Pharmacy, January 16, 2017
- 5. "Global Health Impact" Department of Pediatrics Division of Adolescent Medicine, January 20, 2017
- 6. "Local/Global Lens: Exploring the Impact of Medical Training Experiences in Low-Resource Settings" Pediatrics Grand Rounds, December 2, 2016
- 7. "The State of MCW Global Health and Opportunities for Neurosurgery" Neurosurgery Grand Rounds, December 2, 2016
- 8. "Global and Local Global Health" Neurology Grand Rounds, December 2, 2016
- 9. "Developing a Medical Elective in Nicaragua" Orthopedic Grand Rounds, November 30, 2016
- 10. "Global Health at MCW" Faculty Council Meeting, October 21, 2015
- 11. "Supporting Faculty's Global Health Efforts" Administrators Monthly Meeting, September 3, 2015
- 12. "Minimizing GME Global Health Rotation Risk" Graduate Medical Education Committee, April 20, 2015
- 13. "Injury Prevention and Management in Resource Limited Settings" Pediatrics Noon Conference, February 18, 2015
- 14. "Insight and Direction Global Health Nursing", Froedtert Global Health Nursing Committee, November 26, 2014
- 15. "Global Health Definitions, Implications", Physical Medicine and Rehabilitation Grand Rounds, December 5, 2014
- 16. "Establishing Partnerships to Promote Global Health" PhD in Public and Community Health Global Health Seminar, September 29, 2014
- 17. "Promoting Diversity and Inclusion with Global Health Efforts" Diversity and Inclusion Committee, January 28, 2014
- 18. "Growing a campus-wide Global Health Effort" Froedtert Hospital Operations Committee, Milwaukee, Wisconsin, January 22, 2014
- 19. "Growing a campus-wide Global Health Effort" Children's Hospital and Health System Leadership, Milwaukee, Wisconsin December 10, 2013
- 20. "Global Health Program and Faculty Partnerships" Women's Faculty Council, November 25, 2013
- 21. "Growing Global Health Opportunities" Neurology Faculty Meeting, October 10, 2013
- 22. "M4 Global Health Electives for MCW Students" Global Health Pathway Core Curriculum, April 25, 2013
- 23. "Move toward global health care, what new skills or knowledge will the physicians of the future need to master"

  Docere Panel, January 8, 2013
- 24. "Partnering with Faculty to Grow Global Health" Department of Ophthalmology, November 25, 2012

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- 25. "Global Burden of Injury," The Clinical and Translational Science Institute Seminar, September 20, 2012
- 26. "Ethical Considerations of Defining Global Health" Bioethics Summer Course Poverty, Justice and Global Health, June 6, 2012
- 27. "MCW's Global Health Program: An Exciting New Development" Pediatric Surgery Grand Rounds, May 4, 2012
- 28. "Grand Rounds in Injury for the Master Clinician Pathway" M1, M2 & M3 students, Medical College of Wisconsin, March 29, 2012.
- 29. "What is the Definition of Global Health" PhD in Public and Community Health Seminar Series, February 14, 2012
- 30. "Global Burden of Injury," Global Health Pathway Program, January 5, 2012
- 31. "Injury Prevention and Management in Resource Limited Settings" Pediatrics Noon Conference, November 30, 2011
- 32. "Growing MCW's Global Health Program and Opportunities to Engage" Medical College of Wisconsin Global Health Organization, Student Interest Group, November 28, 2011
- 33. "Faculty's Global Health Efforts" Global Health Pathway Program, May 13, 2019. "Wound Ballistics", Emergency Medicine Grand Rounds, Medical College of Wisconsin and Froedtert Hospital, March 10, 2011.
- 34. Health Policy and Physician Advocacy" M4 Selective, Family Medicine, Medical College of Wisconsin, February 8, 2011
- 35. "Alcohol and and Youth: Big Problem with a Hospital Based Intervention", Pediatric Trauma Grand Rounds, Children's Hospital and Health System, May 12, 2010
- 36. "Reducing the Public Health Burden of Suicide: A View from the Room" for Department of Psychiatry and Behavioral Medicine Grand Rounds, Wheaton Franciscan Healthcare, Wauwatosa, WI, March 18, 2009
- 37. "Alcohol Related Illness in the ED", Emergency Medicine Grand Rounds Lecture, Medical College of Wisconsin and Froedtert Hospital, December, 2008
- 38. "Department Administrator Update", Emergency Medicine Grand Rounds Lecture, Medical College of Wisconsin and Froedtert Hospital, October, 2008
- 39. "Firearm Related Injury: Myths, Physiology & Epidemiology", Pediatric Trauma Grand Rounds, Children's Hospital of Wisconsin, December 4, 2007
- 40. "Gunshot Wounds: An Integrated Approach to a Biosocial Disease", Integrated Grand Rounds, Medical College of Wisconsin. November 2, 2007
- 41. "Wound Ballistics", Emergency Medicine Grand Rounds Lecture, Medical College of Wisconsin and Froedtert Hospital, July, 2008
- 42. "Injury Prevention", Emergency Medicine Grand Rounds Lecture, Medical College of Wisconsin and Froedtert Hospital, July 5, 2007
- 43. "Emergency Medicine Update", Grand Rounds Lecture, Medical College of Wisconsin and Froedtert Hospital, July 13, 2006

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- 44. "Firearm suicide: The Wisconsin experience 2000", 10<sup>th</sup> Annual Emergency Medicine Research Forum, Medical College of Wisconsin, April 16, 2002
- 45. "Comprehensive Injury Center at MCW", EPI Seminar Series, Medical College of Wisconsin, October 18, 2001
- 46. "Advanced Trauma Life Support", Instructor, Medical College of Wisconsin and Froedtert Hospital, June 21, 2000
- 47. "Acute Trauma Care & Prevention", AIM Program, Medical College of Wisconsin, Milwaukee, WI, August, 1996, 1997, 1998, 1999
- 48. "Epidemiology of Unintentional and Intentional Injuries", Course Director, Medical Student Lecture, Medical College of Wisconsin Graduate School, Milwaukee, WI, February-April 1998
- 49. "Bags, Belts, and Bruises", Emergency Medicine Grand Rounds, Medical College of Wisconsin, Milwaukee, WI, February 13, 1997
- 50. "Mechanism of Injury", Trauma Nurse Specialist Course, Flight for Life, Milwaukee Regional Medical Center, Milwaukee, WI, January 29, 1997
- 51. "Firearm Injuries and Deaths," Department of Epidemiology, medical student lecture, Medical College of Wisconsin, Milwaukee, WI, 1995, 1996, 1997, 1998, 1999
- 52. "Firearm Injury Epidemiology," Epidemiology seminar of the Health Policy Institute, Medical College of Wisconsin, Milwaukee, WI, September 1996
- 53. "Propeller Injuries," Flight for Life Lecture, Medical College of Wisconsin, Milwaukee, WI, March 1996
- 54. "Mechanisms of Injury", Trauma Nurse Specialist Course. Flight for Life, Milwaukee Regional Medical Center, Milwaukee, WI, February 1996
- 55. "Scope and Nature of the Firearm Injury and Death Problem", Fourth Annual Firearms Seminar, Froedtert Memorial Lutheran Hospital, Milwaukee, WI, January 1996
- "Violence as a Public Health Issue," First Annual Forum The Changing Urban Health Care Environment: Ethical Implications, Sponsored by the Center for Ethics Studies, Marquette University, and the Center for the Study of Bioethics at the Medical College of Wisconsin, November 1995
- 57. "Issues & Challenges of Gunshot Wound Research", J. (Deke) Farrington, MD, Trauma Visiting Professorship presented by the Section of Trauma & Emergency Surgery of the Medical College of Wisconsin, the American Trauma Society (Wisconsin Division), ACS Wisconsin Committee on Trauma, and Flight for Life, Milwaukee, WI, November 1995
- 58. "Firearm Injuries and Deaths: Epidemiology and Prevention", Pathology lecture to medical students. Medical College of Wisconsin, Milwaukee, WI, November 1995
- 59. "Patterns of Injury and Opportunities for Prevention." Milwaukee Regional Medical Complex, Flight for Life, Milwaukee, WI, March 1995
- 60. "Trauma Systems: Where Does Emergency Medicine Fit In?", Emergency Medicine Grand Rounds, Medical College of Wisconsin, Milwaukee, WI, December 1994
- 61. "Wound Management." Medical Student Lecture/Workshop, Medical College of Wisconsin, Milwaukee, WI, December 1994, 1995, 1996, 1997, 1998, 1999

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- 62. "Trauma Systems: Who, What, Where?", Surgery Grand Rounds, Medical College of Wisconsin, Milwaukee, WI, November 1994
- 63. "Firearm Injury and Death Problems in the United States, Wisconsin, and Milwaukee," Medical College of Wisconsin (Firearms Seminar) January 1994
- 64. "Injury Prevention." Department of Pediatrics Research Seminar Series, Medical College of Wisconsin, Milwaukee, WI, January 1994
- 65. POMP Students, 1992 1994
- 66. Biostatistics & Epidemiology Course, First Year Medical Students at the Medical College of Wisconsin, March 1993
- 67. Introduction to Clinical Medicine Lecture, Junior Medical Students, July 1993
- 68. Advanced Trauma Life Support Instructor/Shock Lecture, Medical College of Wisconsin, June 1993
- 69. Advanced Cardiac Life Support Instructor/Airway Management, Dysrhythmia Recognition, Medical College of Wisconsin, June 1993
- 70. Biostatistics Course Lecturer, Freshman Students, March 1993
- 71. "Alcohol and Health: Emergency Medicine View from the Bottom of the Bottle." Medical College of Wisconsin Emergency Medicine Grand Rounds, Milwaukee, WI, December 7, 1993
- 72. "The Epidemiology of Firearm Deaths and Injuries." Surgery Grand Rounds, Froedtert Memorial Lutheran Hospital, Milwaukee, WI, July 1993
- 73. "Firearm Deaths and Injuries: Lessons from the 1960s and the Corvair." Health Policy Institute Seminar, Medical College of Wisconsin Alumni Center, Milwaukee, WI, June 10, 1993
- 74. "Mechanisms of Injury", Trauma Nurse Specialist Course: Flight for Life, Milwaukee, WI, March 1993
- 75. "Firearms and Children", Children's Hospital of Wisconsin Grand Rounds, Milwaukee, WI, July 1992
- 76. Introduction to Advanced Cardiac, Life Support, Junior Students, July 1992
- 77. Wound Management Course, Junior Students, 1991 present
- 78. Basic Trauma Life Support Course Director, 1989 1990, 1991, 1991

## **BIBLIOGRAPHY**

### Original Papers:

- 1. Dove, A. Kallies, KJ, Hargarten, S, Tomas, C. A Milwaukee Syndemic? Penetrative Injury and COVID-19 *WI Medical Journal* 2023 122 (5), 313-318
- 2. Tomas, C.W., Fumo, N., Kostelac, C.A., Flynn-O'Brien, K., Levas, M., deRoon-Cassini, T.A., Hargarten, S. (2023). Trends in firearm production and firearm deaths in children. *Preventive Medicine*. Doi: 10.1016/j.ypmed.2023.107684

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- 3. Timmer-Murillo, S.C., Schroeder, M.E., Trevino, C., Geier, T., Schramm, A.T., Brandolino, A.M., Hargarten, S., Holena, D., deMoya, M., Milia, D., & deRoon-Cassini, T.A. (2023). Comprehensive Framework of Firearm Violence Survivor Care: A Review. *Jama Surgery*. doi:10.1001/jamasurg.2022.8149
- 4. Schneider, R.J., Willman, J., & Hargarten, S. (2023) Linking Police and EMS Records: An Approach to Strengthen Bicyclist Injury Reporting. *Transportation Research Record*, 03611981221151073.
- Kohlbeck, S. A., Quinn, K., deRoon-Cassini, T., Hargarten, S., Nelson, D., & Cassidy, L. (2022, December 22). "I've Given Up": Biopsychosocial Factors Preceding Farmer Suicide in Wisconsin. American Journal of Orthopsychiatry. Advance online publication. <a href="https://dx.doi.org/10.1037/ort0000662">https://dx.doi.org/10.1037/ort0000662</a>
- 6. Timmer-Murillo, S.C., Schroeder, M.E., Trevino, C., Geier, T., Schramm, A.T., Brandolino, A.M., Hargarten, S., Holena, D., deMoya, M., Milia, D., & deRoon-Cassini, T.A. (In Press). Comprehensive Framework of Firearm Violence Survivor Care: A Review. *JAMA Surg.*
- 7. Girasek, D.C., Hargarten, S. (2022). Prevention of and Emergency Response to Drowning. *N Engl J Med* 2022;387:1303-8.
- 8. Sakran, J.V., Hargarten. S., Rivara, F.P. (2022). Coordinating a National Approach to Violence Prevention. *JAMA*, Sept. 28, 2022 Volume 328, Number 12
- 9. Ehrlich, P.F., Pulcini, C.D., De Souza, H.G. Hall, M., Andrews, A., Zima, B.T., Fein, J.A., Chaudhary, S., Hoffmann, J.A., Fleegler, E.W., Jeffires, K.N., Goyal, M.K., Hargarten, S., Alpern, E.R. (2022). Mental Healthcare Following Firearm and Motor Vehicle Related Injuries: Differences Impacting Our Treatment Strategies. *Ann Surg.* 2022 June 28. doi: 10.1097/SLA.0000000000005557. Online ahead of print.PMID: 35762587
- 10. Wyler, B.A., Young, H. M., Hargarten, S.W., Cahill, J.D. (2022) Risk of deaths due to injuries in travellers: A systematic review. *J Travel Med* 29.5 (2022): taac074.
- 11. Kohlbeck, S., Schramm, A., deRoon-Cassini, T., Hargarten, S., Quinn, K. (2022). Farmer Suicide in Wisconsin: A Qualitative Analysis. *Journal of Rural Health*. Summer 2022. Volume 38, Issue 3: 546-553.
- 12. Barron, A., <u>Hargarten, S.</u>, & Webb, T. (2021). Gun violence education in medical school: a call to action. *Teaching and learning in medicine* 34.3 (2022): 295-300.
- 13. Dunton, Z. R., Kohlbeck, S. A., Lasarev, M. R., Vear, C. R., & <u>Hargarten, S.</u> W. (2021). The association between repealing the 48-hour mandatory waiting period on handgun purchases and suicide rates in Wisconsin. *Archives of suicide research* 26.3 (2022): 1327-1335.
- 14. Kohlbeck, S., Levas, M., Hernandez-Meier, J., & <u>Hargarten, S</u>. (2021). Implementing the Cardiff Model for violence prevention: using the diffusion of innovation theory to understand facilitators and barriers to implementation. *Injury Prevention* 28.1 (2022): 49-53.
- 15. Dunton, Z., <u>Hargarten, S.</u>, Kohlbeck, S., & Osman, F. (2021). Homicide: a leading cause of death for black non-hispanics in Wisconsin. *WMJ (Wisconsin medical journal)*. *120*(S1). S6-S9.
- 16. Kohlbeck, S., deRoon-Cassini, T., Levas, M., <u>Hargarten, S.</u>, Kostelac, C., Totoratis, M., ... & Smith, J. (2021). Multidisciplinary data-sharing for community violence prevention: shifting power to the community. *Injury prevention* 27.Suppl 3 (2021): A4-A4.
- 17. Martin, I. B., & <u>Hargarten, S</u>. (2020). The antiracist, propatient pledge of emergency medicine. *Academic Emergency Medicine*, 27(9), 932-933.

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- 18. McDougall, S., Annapureddy, P., Madiraju, P., Fumo, N., & <u>Hargarten, S.</u> (2020, December). Predicting Opioid Overdose Readmission and Opioid Use Disorder with Machine Learning. In 2020 IEEE International Conference on Big Data (Big Data) (pp. 4892-4901). IEEE.
- 19. Hargarten, S. W. (2020). The Bullets He Carried. Western Journal of Emergency Medicine, 21(5), 1036.
- 20. Kohlbeck, S, <u>Hargarten, S</u>, Cassidy, L. (2020). Age- and Sex-Specific Risk Factors for Youth Suicide: A Mixed Methods Review. *WMJ* 119.3 (2020): 165-170.
- 21. Zosel, A., Kohlbeck, S., Davis, C. S., Meurer, L., & <u>Hargarten, S</u>. (2020). Medical student education for injury prevention: closing the gap. *Injury Prevention* 27.2 (2021): 201-205.
- 22. Kohlbeck, S, Fumo, N, <u>Hargarten, S</u>. (2020). Systems Change for Suicide Prevention Among Adolescents: A Rural Wisconsin County Approach. *Injury Prevention* 27.2 (2021): 131-136.
- 23. Bonk C, Weston B, Davis C, Barron A, McCarty O, <u>Hargarten S</u>. (2019). Saving Lives with Tourniquets: A Review of Penetrating Injury Medical Examiner Cases. *Prehospital Emergency Care:* DOI: 10.1080/10903127.2019.1676344
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- 25. <u>Hargarten SW</u>, Lerner EB, Gorelick M, Brasel K, deRoon-Cassini T, Kohlbeck S. Gun Violence: A Biopsychosocial Disease. *Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health*, 2018; 19(6), 1024-1027.
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- 27. Rajan S, Branas CC, <u>Hargarten S</u>, Allegrante JP: Funding for Gun Violence Research Is Key to the Health and Safety of the Nation. *American Journal of Public Health*, Am J Public Health. 2018 Feb;108(2):194-195. doi: 10.2105/AJPH.2017.304235. PMID: 29320291
- 28. <u>Hargarten, S</u>: Firearm Injury in the United States: Effective Management Must Address Biophysical and Biopsychosocial Factors. *Ann Intern Med.* 2016 Dec 20;165(12):882-883. doi: 10.7326/M16-2244. Epub 2016 Oct 18. PMID: 27750331
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- 31. Guse CE, <u>Hargarten S</u>. Limitations of travel data for rate computations. Injury Prevention: Journal of the International Society for Child and Adolescent Injury Prevention. 2015; 21(e1):e153.
- 32. Vu A, Duber HC, Sasser SM, Hansoti B, Lynch C, Khan A, Johnson T, Modi P, Clattenburg EJ, <u>Hargarten S</u>. Emergency Care Research Funding in the Global Health Context: Trends, Priorities, and Future Directions. *Academic Emergency Medicine* December 2013 20(12):1259-63.

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- 34. Hanlin ER, Delgado-Rendón A, Lerner EB, <u>Hargarten S</u>, Farías R: Fall Risk and Prevention Needs Assessment in an Older Adult Latino Population: A Model Community Global Health Partnership. *Progress in Community Health Partnerships: Research, Education, and Action* 2013; 7(2):191-9.
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- 38. Schlotthauer AE, Guse CE, Brixey S, Corden TE, <u>Hargarten SW</u>, Layde PM. Motor Vehicle Crashes Associated with Alcohol: Child Passenger Injury and Restraint Use, *Am J Prev Med*, 2011 Mar 40(3): 320-3.
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- 47. Meisel ZF, <u>Hargarten S</u>, Vernick J. Addressing Prehospital Patient Safety Using the Science of Injury Prevention and Control. *Prehospital Emergency Care*. 2008; 12:4, 411-16.
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- 50. Pan S, Hargarten S, Zhu S. School Bus and Traffic Safety. Chinese Journal of Tramaology. August 2007.
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- 57. Glysch RL, Hale, LJ, Nie C, <u>Hargarten SW</u>. Wisconsin's violent death reporting system: Monitoring and responding to Wisconsin's violent deaths. *WMJ* 2005;104 (1);17-19.
- 58. Layde PM, Meurer LN, Guse CE, Meurer JR, Yang H, Laud P, Kuhn EM, Brasel KJ, <u>Hargarten SW</u>. Medical injury identification using hospital discharge data. In *Advances in Patient Safety: From Research to Implementation*. AHRQ Publication No. 0500021(1-4) February 2005. Vol 2; pp.119-132. Agency for Healthcare Research and Quality, Rockville, MD.
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- 45 -

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## Exhibit B



# **Crime Lab Tests**

## August 2021

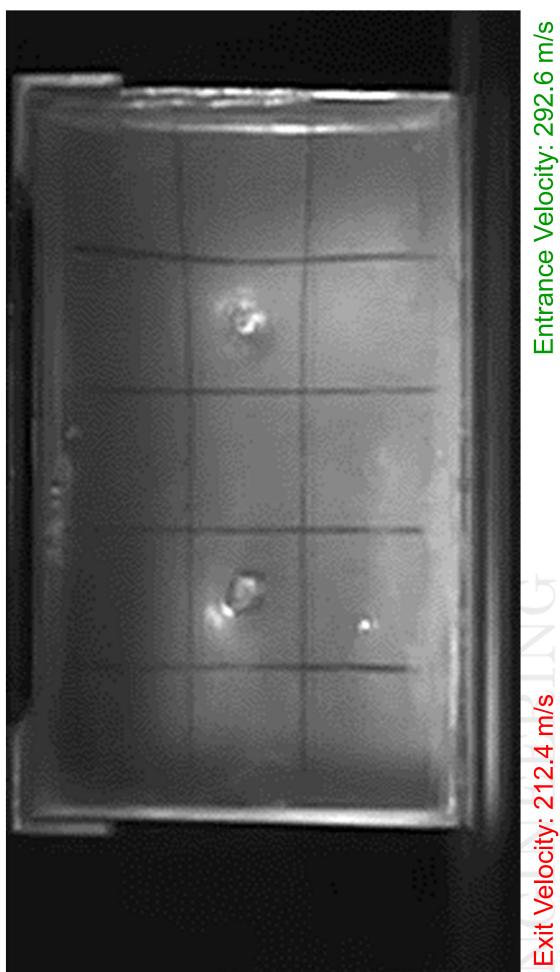
BIOMEDICAL ENGINEERING





# Thompson .45 Auto

MARQUETTE UNIVERSITY

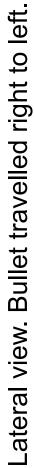




# Thompson .45 Auto

MARQUETTE



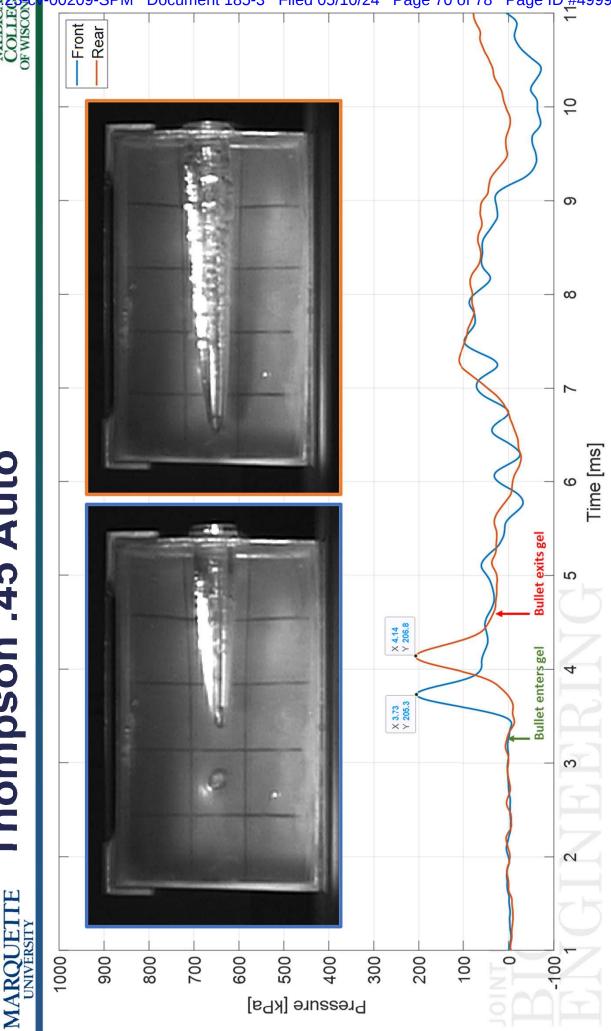








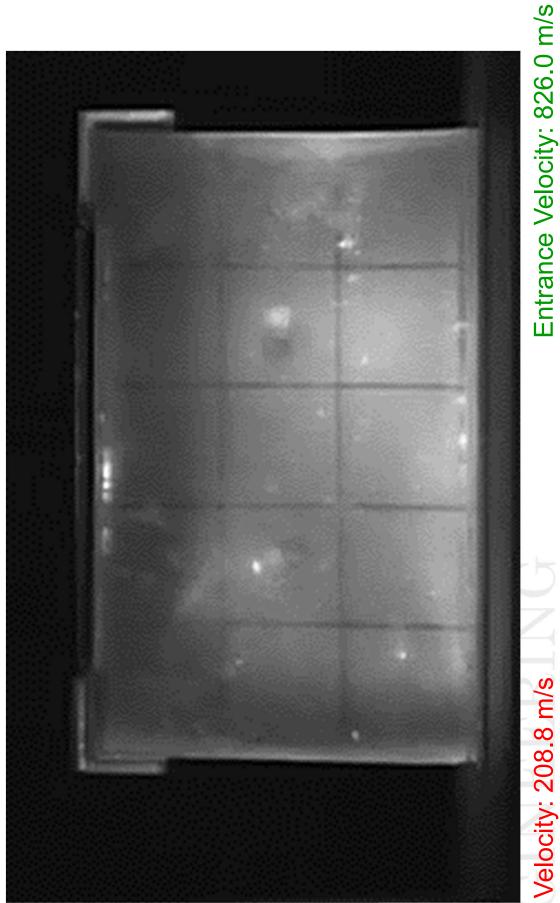
# Thompson .45 Auto





## **5.56 NATO**

MARQUETTE UNIVERSITY

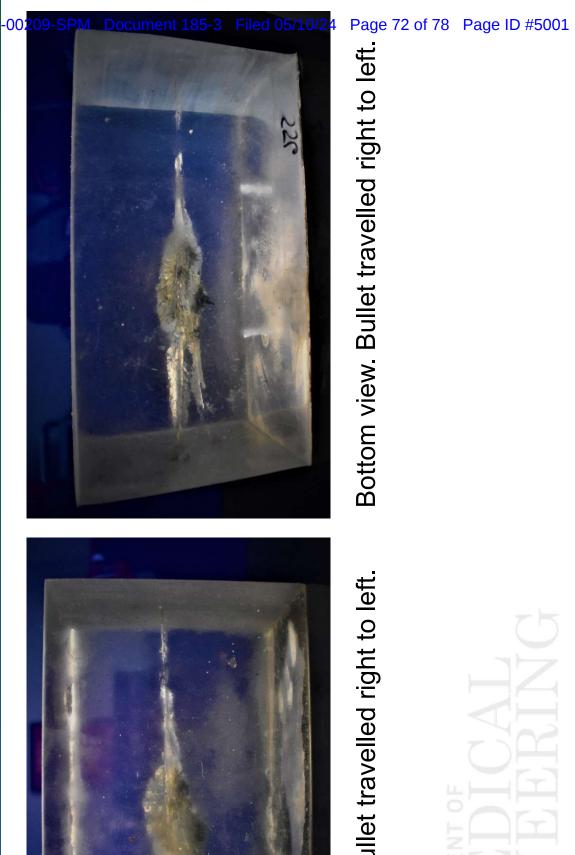


Exit Velocity: 208.8 m/s



## **5.56 NATO**

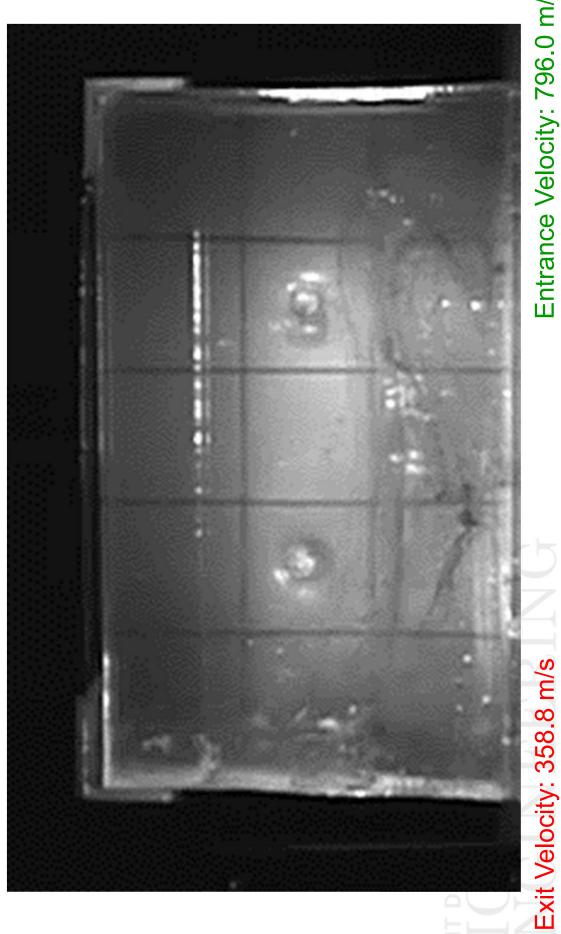
MARQUETTE UNIVERSITY



Lateral view. Bullet travelled right to left.









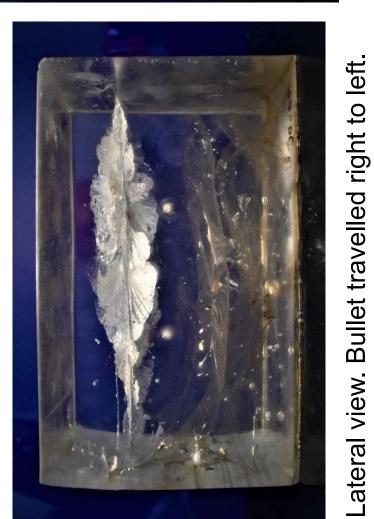
30-08

MARQUETTE

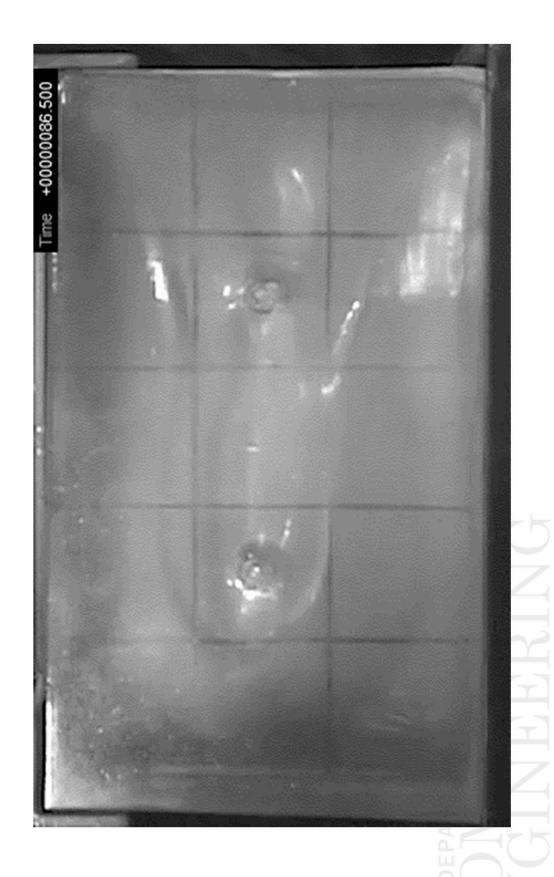




Bottom view. Bullet travelled right to left. based and b











## Summary



Round	Pressure [kPa], Initial Peak, Near Sensor (2500Hz Filter)	Pressure [kPa], Initial Peak, Far Sensor (2500Hz Filter)	Peak Diameter of Temporary Cavity [inches]	Bullet Mass	Energy Lost by Bullet while Passing thru Gel [J]	% Energy
.25 Caliber	18.2	32.8	1.0	3.240	54.13	83 83 83
.32 Caliber	138.3	251.7	1.5	4.601	108.73	8 <del>/8</del> 5
.40 Caliber	*756.9	361.2	*3.3	11.664	265.99	75
5.56 NATO	712.7	774.4	5.4	3.564	1,055.05	05/10
Musket Ball	*267.6	107.7	*3.1	3.531	111.27	777
Thompson .45	205.3	206.3	2.1	14.904	301.81	4783
5.56 NATO	568.8	2360.6	7.2	3.564	1,138.13	90f 7886 *
90-08.	*1568.3	1387.2	**8.0	8.424	2,126.55	7 <del>6</del> 67
						Pa

<sup>\*</sup>Denotes peak pressures and temporary cavities that were located closer to the near sensor.

\*Peak cavity extended beyond range of camera view. Listed value is from bottom of cavity to top of frame. Estimated cavity is closer to 11.8 in the standard beyond range of camera view. Listed value is from bottom of cavity to top of frame. Estimated cavity is closer to 11.8 in the standard cape of the energy transfer.